D 209.10: Pw-10/v.3

V-48 (a)

UNITED STATES NAVY

DRYDOCKING FACILITIES

Volume 3

Data Book

CIVIL ENGINEER CORPS
UNITED STATES NAVY

TECHNICAL PUBLICATION

NAVDOCKS TP-PW-10

1 FEBRUARY 1955

DEPARTMENT OF THE NAVY
BUREAU OF YARDS AND DOCKS
WASHINGTON 25, D. C.

04-27-676

DEPARTMENT OF THE NAVY
Bureau of Yards and Docks
Washington 25, D. C.

BUDOCKS 11420.5
C-214H/A-342
22 Dec 1954

BUDOCKS INSTRUCTION 11420.5

From: Chief, Bureau of Yards and Docks
To: Distribution List

Subj: Drydocking Facilities, Volume 3

Ref: (a) BuDocks Technical Publication - NAVDOCKS TP-Pw-10, subject as above

1. Purpose. To provide a cross reference within the Navy Directives System and a brief outline of the contents of the above-noted publication.

2. Contents. The referenced publication presents technical data in summary form on the principal characteristics and features of graving docks, floating drydocks, and marine railways.

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NAVDOCKS TP-Pw-10

1 FEBRUARY 1955

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BUREAU OF YARDS AND DOCKS
WASHINGTON 25, D. C.

DEPARTMENT OF THE NAVY
BUREAU OF YARDS AND DOCKS
WASHINGTON 25, D. C.

1 February 1955

This Bureau has designed, constructed, and maintained drydocking facilities since the earliest days of the Navy. The crude technique of beaching or hauling a ship ashore gave way to the marine railway. Bailing out a quiet inlet into which a vessel had been floated and enclosed with an embankment led inevitably to wooden, masonry, and modern concrete drydocks.

To facilitate emergency repairs in distant theaters, the demand for a towable structure that could be readily submerged beneath even a very large vessel, then dewatered, resulted in the development of the huge floating drydocks of today.

During the entire history of the Navy, in peace and war, provision of drydocking facilities has been a major responsibility of this Bureau. In cooperation with the Bureau of Ships and other bureaus concerned, this Bureau plans, designs, and constructs modern drydocking facilities as they are required.

The three volumes that comprise this publication provide the basic criteria for design and construction of all types of drydocking facilities, establish practical standards for their inspection and maintenance, and give detailed data on their characteristics.

This publication will be useful to all Civil Engineer Corps officers and civilian personnel concerned with drydocking facilities.

J.R. PERRY
RADM (CEC) USN
Chief, Bureau of Yards and Docks

TO USERS OF THIS TECHNICAL PUBLICATION

This is one of a series of Technical Publications prepared by the Bureau of Yards and Docks as concise guides to approved practices, procedures, instructions, and methods for construction, maintenance, and operation of naval shore facilities.

The TP series is planned to cover all administrative and technical operations for which this Bureau is responsible.

The engineering TP's are designed to supplement, but not to replace, the standard handbooks and similar sources of technical information. The TP's present in some detail the special phases of practices and standards that are considered most effective and best adapted for use by naval shore activities.

In many subject areas, the Technical Publications represent the Bureau's initial effort to document practices that have evolved and become generally accepted through traditional application.

It is anticipated, therefore, that the quality and usefulness of these Technical Publications will steadily increase as they undergo thorough field tests.

Suggestions for improvement will be welcomed and should be forwarded to the Chief, Bureau of Yards and Docks, via channels.

Requests for additional copies of this publication should give the TP number as well as the title and should be addressed to the District Publications and Printing Office.

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Standard Navy Distribution Lists:

Part I,	21, 24F
Part II,	A-5, A-6, B-5, F-2, J-65, J-66, L-1
Bureau,	X-1, X-3, N-1, N-2, N-5, N-8, N-9

FOREWORD

This publication, issued in three volumes, presents the current policies, practices, criteria, and technical data used by military and civilian personnel concerned with the Navy's drydocking facilities.

Volume 1 deals with the major subjects of design, construction, and operation of drydocking facilities and related areas.

Volume 2 covers the inspection and maintenance of drydocking facilities.

Volume 3 presents technical data on the principal characteristics and features of existing facilities.

Volumes 1 and 2 are divided into chapters. In each of these volumes, Chapter 1 covers general introductory information applying to the three principal types of drydocking facilities; it also presents the general authority under which this Bureau is assigned responsibilities for such facilities. Also presented in Chapter 1 are definitions applying to all types of these facilities.

The detail subject matter on graving docks, floating drydocks, and marine railways is presented in subsequent chapters.

Volume 3 presents technical data in summary form.

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INTRODUCTION

This volume briefly summarizes basic general data relating to the size, capacity, and facilities of graving drydocks, floating drydocks, and marine railways that are owned or leased by the US Navy or are of interest because of their potential utilization.

The data herein are intended to be used for general purposes. For more detailed information on drydocking facilities, reference should be made to construction drawings, docking plans, and design data, which are available in the Bureau or in the Public Works Department concerned. Further information on floating drydocks will be found in the operating manuals.

Shops on floating drydocks are arranged and equipped for dock maintenance only, except in the cases of ARD-2 through ARD-32, where they are also utilized for ship repair.

On floating drydocks there are no built-in systems for oxygen or acetylene, except on those drydocks where they are definitely specified.

The illustrations in this volume, although reasonably true renderings, are not exact orthographic projection drawings and are not to be scaled. Details of the structures are in many cases omitted in order to simplify the presentation, and no attempt is made to show the type or material of construction.

ABBREVIATIONS

The following abbreviations are used in this technical publication.

AC	alternating current
amp	ampere(s)
avg	average
cfm	cubic feet per minute
CL	centerline
c to c	center to center
cy	cycle(s)
diam	diameter
DC	direct current
EHW	extreme high water
el	elevation
ELW	extreme low water
fpm	feet per minute
FR	frame
gpd	gallons per day
gph	gallons per hour
gpm	gallons per minute
hp	horsepower
HPS	high-pressure steam
HT/LT	high tide/low tide
kva	kilovolt-ampere(s)
max	maximum
MHW	mean high water
MLLW	mean lower low water
MLW	mean low water
min	minute
ph	phase (electricity)
psi	pounds per square inch
psig	pounds per square inch gage
R	radius
rpm	revolutions per minute
std	standard
tdh	total dynamic head
v	volt(s)

DRYDOCK CHARACTERISTICS SUMMARY

DRYDOCK CHARACTERISTICS SUMMARY

GRAVING DRYDOCKS

Location	Facilities	Size				Mean tide range	Functions, capacities, and remarks
		Width (entrance width 6 ft above sill)	Length (length coping head to side of caisson)	Depth over sill (MHW)	Depth over blocks (MHW)		
Balboa, C. Z.	Drydock No. 1	108′ 6″	1,044′ 0″	46′ 0″	41′ 6″	12.6′	To dock BB and CV.
	Drydock No. 2	84′ 0″	435′ 8″	28′ 6″	25′ 11″		To dock DD, SS, and DL.
	Drydock No. 3	49′ 0″	235′ 0″	22′ 10″	18′ 10″		To dock PC and small auxiliaries.
Boston, Mass.	Drydock No. 1	50′ 0″	415′ 0″	25′ 2″	22′ 4″	9.6′	To dock SS or DD.
	Drydock No. 2	91′ 4″	738′ 1″	29′ 10″	29′ 10″		To dock cruisers and large auxiliaries.
	Drydock No. 5[2]	91′ 0″	518′ 3″	21′ 0″	17′ 0″		To build escort vessels and SS.
South Boston, Annex, Mass.	Drydock No. 3	121′ 9″	1,175′ 11″	44′ 9″	42′ 9″	9.4′	To dock BB and CV.
	Drydock No. 4	91′ 1″	693′ 6″	36′ 0″	32′ 0″		To dock cruisers.
Charleston, S. C.	Drydock No. 1	98′ 10″	622′ 0″	34′ 1″	31′ 1″	5.3′	To dock cruisers and large auxiliaries.
	Drydock No. 2[2]	99′ 0″	509′ 9″	25′ 0″	20′ 0″		To build or dock 2 SS, 2 DD, 2 leaders, or 1 C-3 merchant ship.
	Drydock No. 3[2]	42′; 42′[1]	364′ 10″	10′ 1″	9′ 7″		To build or dock escort vessels.
	Drydock No. 4[2]	42′; 42′[1]	364′ 10″	10′ 1″	9′ 7″		To build or dock escort vessels.
Cristobal, C. Z.	Drydock No. 1	60′ 3″	386′ 6″	22′ 6″	21′ 6″	0.9′	To dock DD and SS.
Long Beach, Calif.	Drydock No. 1	143′ 1″	1,092′ 0″	47′ 0″	43′ 0″	3.8′	To dock BB and CV.
	Drydock No. 2	91′ 11″	693′ 6″	36′ 6″	32′ 0″		To dock cruisers and large auxiliaries.
	Drydock No. 3	91′ 11″	693′ 6″	36′ 6″	32′ 0″		To dock cruisers and large auxiliaries.
Mare Island, Calif.	Drydock No. 1	61′ 0″	507′ 11″	27′ 1″	26′ 8″	4.8′	To dock SS and DD.
	Drydock No. 2	92′ 3″	740′ 4″	31′ 2″	29′ 8″		To dock cruisers and large auxiliaries.
	Drydock No. 3	82′ 0″	693′ 1″	36′ 0″	35′ 6″		To dock cruisers and large auxiliaries.
	Drydock No. 4	84′ 0″	435′ 8″	23′ 0″	20′ 0″		To dock 2 SS, 2 DD, or 1 C-1 merchant ship.
New York, N. Y.	Drydock No. 1	47′ 6″	349′ 1″	25′ 6″	21′ 0″	4.2′	To dock SS and DD.
	Drydock No. 2	75′ 4″	465′ 6″	24′ 11″	24′ 11″		To dock SS, DD, and DL.
	Drydock No. 3	77′ 0″	656′ 4″	29′ 8″	27′ 8″		To dock cruisers and large auxiliaries.
	Drydock No. 4	112′ 0″	727′ 3″	35′ 5″	32′ 11″		To dock BB (up to and including *North Carolina* class).
	Drydock No. 5[2]	143′ 1″	1,092′ 0″	41′ 0″	38′ 0″		To build or dock BB.
	Drydock No. 6[2]	143′ 1″	1,092′ 0″	41′ 0″	38′ 0″		To build or dock BB.
Bayonne, N. J., Annex	Drydock No. 7	143′ 1″	1,092′ 0″	47′ 0″	43′ 0″	. . .	To dock BB and CV.
Norfolk, Va.	Drydock No. 1	46′ 7″	325′ 7″	25′ 3″	20′ 10″	2.8′	To dock SS and DD.
	Drydock No. 2	58′ 10″	492′ 9″	26′ 3″	24′ 10″		To dock SS, DD, and DL.
	Drydock No. 3	101′ 0″	722′ 11″	34′ 0″	31′ 0″		To dock cruisers and large auxiliaries.
	Drydock No. 4	116′ 2″	1,011′ 4″	43′ 9″	40′ 3″		To dock BB and CV.
	Drydock No. 6	62′ 1″	465′ 0″	20′ 0″	18′ 10″		To dock SS, DD, and DL.
	Drydock No. 7	62′ 1″	465′ 0″	20′ 0″	15′ 10″		To dock SS and DD.
	Drydock No. 8[2]	143′ 1″	1,092′ 0″	47′ 6″	42′ 6″		To build or dock BB.

DRYDOCK CHARACTERISTICS SUMMARY (CONT.)

GRAVING DRYDOCKS

Location	Facilities	Size				Mean tide range	Functions, capacities, and remarks
		Width (entrance width 6 ft above sill)	Length (length coping head to side of caisson)	Depth over sill (MHW)	Depth over blocks (MHW)		
Pearl Harbor, T. H.	Drydock No. 1	113′ 6″	1,001′ 6″	35′ 0″	32′ 6″	1.5′	To dock BB and CV.
	Drydock No. 2	133′ 8″	1,000′ 6″	46′ 6″	44′ 6″		To dock BB and CV.
	Drydock No. 3	84′ 0″	497′ 8″	22′ 6″	20′ 0″		To dock DD, SS, DL, or 1 C-3 merchant ship.
	Drydock No. 4	141′ 3″	1,088′ 3″	48′ 6″	44′ 6″		To dock BB and CV.
Philadelphia, Pa.	Drydock No. 1	58′ 11″	491′ 7″	25′ 6″	23′ 4″	5.6′	To dock SS, DL and auxiliaries, and DD.
	Drydock No. 2	91′ 10″	744′ 6″	30′ 2″	30′ 2″		To dock cruisers and large auxiliaries.
	Drydock No. 3	116′ 2″	1,011′ 4″	43′ 5″	39′ 11″		To dock BB and CV.
	Drydock No. 4[2]	143′ 2″	1,092′ 0″	40′ 0″	35′ 0″		To build or dock BB.
	Drydock No. 5[2]	143′ 2″	1,092′ 0″	43′ 6″	38′ 6″		To build or dock BB.
Philadelphia, Pa.	Cramp Shipyard	79′ 4″	642′ 11″	30′ 0″	26′ 0″	5.6′	To dock cruisers and C-3 merchant ships.
Portsmouth, N. H.	Drydock No. 1[2]	91′ 4″	435′ 3″	25′ 0″	21′ 6″	8.0′	To dock 2 SS, 2 DD, 2 DL, or C-1 merchant ships.
	Drydock No. 2	91′ 5″	740′ 10″	30′ 4″	28′ 6″		To dock cruisers and large auxiliaries.
	Drydock No. 3[2]	39′; 39′[1]	366′ 3″	13′ 9″	17′ 4″		To build SS.
Puget Sound, Wash.	Drydock No. 1	75′ 3″	638′ 11″	30′ 0″	27′ 10″	7.8′	To dock cruisers and large auxiliaries.
	Drydock No. 2	114′ 4″	867′ 0″	38′ 0″	35′ 6″		To dock BB and CV.
	Drydock No. 3	110′ 6″	927′ 3″	23′ 6″	[4]		See notes below.[4]
	Drydock No. 4	133′ 8″	997′ 7″	45′ 0″	43′ 0″		To dock BB and CV.
	Drydock No. 5	133′ 8″	1,000′ 6″	45′ 0″	43′ 0″		To dock BB and CV.
Roosevelt Roads, Vieques, P. R.	Drydock No. 1	141′ 3″	1,088′ 3″	48′ 0″	44′ 0″	1.1′	To dock BB and CV.
San Diego, Calif.	Drydock No. 1	91′ 11″	693′ 6″	36′ 6″	32′ 0″	3.9′	To dock cruisers and large auxiliaries.
San Francisco, Calif.	Drydock No. 2	89′ 0″	740′ 0″	29′ 0″	26′ 8″	4.8′	To dock cruisers and large auxiliaries.
	Drydock No. 3	114′ 4″	1,004′ 7″	40′ 0″	37′ 7″		To dock BB and CV.
	Drydock No. 4	143′ 1″	1,092′ 0″	47′ 0″[3]	43′ 0″		To dock BB and CV.
	Drydock No. 5	60′ 0″	420′ 0″	27′ 0″	23′ 0″		To dock 1 SS, 1 DD, or 1 LST.
	Drydock No. 6	75′ 0″	420′ 0″	27′ 0″	23′ 0″		To dock 2 SS, 1 DD, or 1 C-1.
	Drydock No. 7	60′ 0″	420′ 0″	27′ 0″	23′ 0″		To dock 1 SS, 1 DD, or 1 LST.
San Juan, P. R.	Drydock No. 1	83′ 9″	654′ 5″	29′ 0″	25′ 6″	1.1′	To dock cruisers and large auxiliaries.

Notes

[1] Two gates with center pilaster. Clear width, dock wall to pilaster 39 ft (Portsmouth) and 42 ft (Charleston) as indicated each side of pilaster.

[2] Docks designed primarily for shipbuilding.

[3] To floor. Sill is 3 ft 5 in. lower than floor.

[4] Modified by installation of intermediate bulkhead (removable type) and deepening of outer 424-ft portion to provide destroyer repair dock for outboard portion (22.5 ft over 4-ft blocks at MHW), and shipbuilding dock for inboard portion (23.5 ft over floor at MHW).

DRYDOCK CHARACTERISTICS SUMMARY (CONT.)

FLOATING DRYDOCKS

Location[1]	Dock designation	Type	Nominal lifting capacity (tons)[2]	Suitable in general for docking	Size								Construction	
					Length overall	Length[3] on pontoon	Length on blocks	Width overall molded	Width[4] clear inside	Draft over blocks	Draft[5] max when submerged	Draft[6] light	Start	Finish
					AFDB									
	AFDB-1	10 sect., steel	90,000	BB, CVA, CV	927′ 0″[7]	827′ 0″	825′ 6″	256′ 0″	133′ 7″	46′ 0″	78′ 0″	9′ 0″	1942	1943
	AFDB-2	10 sect., steel	90,000	BB, CVA, CV	927′ 0″[7]	827′ 0″	825′ 6″	256′ 0″	133′ 7″	46′ 0″	78′ 0″	9′ 0″	1942	1944
Green Cove Springs, Fla.	AFDB-3	9 sect., steel	81,000	BB, CVA, CV	844′ 0″[7]	744′ 0″	741′ 6″	256′ 0″	133′ 7″	46′ 0″	78′ 0″	9′ 0″	1942	1944
Long Beach, Calif.	AFDB-4	7 sect., steel	55,000	BB, CV	825′ 0″[7]	725′ 0″	723′ 6″	240′ 0″	119′ 6″	39′ 10″	67′ 4″	8′ 8″	1943	1944
	AFDB-5	7 sect., steel	55,000	BB, CV	825′ 0″[7]	725′ 0″	723′ 6″	240′ 0″	119′ 6″	39′ 10″	67′ 4″	8′ 8″	1943	1944
	AFDB-6	7 sect., steel	55,000	BB, CV	825′ 0″[7]	725′ 0″	723′ 6″	240′ 0″	119′ 6″	39′ 10″	67′ 4″	8′ 8″	1943	1944
Green Cove Springs, Fla.	AFDB-7	7 sect., steel	55,000	BB, CV	825′ 0″[7]	725′ 0″	723′ 6″	240′ 0″	119′ 6″	39′ 10″	67′ 4″	8′ 8″	1944	1945
					AFDM									
Galveston, Tex.	AFDM-1[8]	3 pc, steel	15,000	CA, CL, CVE	615′ 8″[9]	544′ 0″	539′ 6″	116′ 0″	87′ 6″	30′ 1″	50′ 4″	6′ 2″	1941	1942
New Orleans, La.	AFDM-2[8]	3 pc, steel	15,000	CA, CL, CVE	615′ 8″[9]	544′ 0″	544′ 0″	116′ 0″	87′ 6″	30′ 0″	49′ 9″	5′ 9″	1941	1942
New Orleans, La.	AFDM-3[8]	3 pc, steel	18,000[10]	CA, CL, CVE	622′ 0″[11]	552′ 0″	543′ 6″	124′ 0″	93′ 2″	29′ 7″	50′ 5″	5′ 10″	1943	1943
Boston, Mass.	AFDM-4[8]	3 pc, steel	18,000	CA, CL, CVE	622′ 0″[11]	552′ 0″	543′ 6″	124′ 0″	93′ 2″	28′ 8″	49′ 6″	5′ 9″	1942	1943
	AFDM-5	3 pc, steel	18,000	CA, CL, CVE	622′ 0″[11]	552′ 0″	543′ 6″	124′ 0″	93′ 2″	28′ 0″	48′ 10″	5′ 8″	1942	1943
Seattle, Wash.	AFDM-6[8]	3 pc, steel	18,000[12]	CA, CL, CVE, DD	622′ 0″[11]	552′ 0″	543′ 6″	124′ 0″	93′ 0″	31′ 1″	52′ 9″	6′ 2″	1943	1944
Mobile, Ala.	AFDM-7[8]	3 pc, steel	18,000[12]	CA, CL, CVE, DD	622′ 0″[11]	552′ 0″	543′ 6″	124′ 0″	93′ 0″	31′ 1″	52′ 9″	6′ 2″	1944	1945
	AFDM-8	3 pc, steel	18,000[12]	CA, CL, CVE, DD	622′ 0″[11]	552′ 0″	543′ 6″	124′ 0″	93′ 0″	31′ 1″	52′ 9″	6′ 2″	1943	1944
Jacksonville, Fla.	AFDM-9[8]	3 pc, steel	18,000[12]	CA, CL, CVE, DD	622′ 0″[11]	552′ 0″	543′ 6″	124′ 0″	93′ 0″	31′ 1″	52′ 9″	6′ 2″	1944	1945
Jacksonville, Fla.	AFDM-10[8]	3 pc, steel	18,000[12]	CA, CL, CVE, DD	622′ 0″[11]	552′ 0″	543′ 6″	124′ 0″	88′ 11″	30′ 7″	52′ 9″	6′ 2″	1944	1945
					AFDL									
	AFDL-1	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1943
Bremerton, Wash.	AFDL-2	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1943
	AFDL-3	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1943
Tacoma, Wash.	AFDL-4[8]	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1943
	AFDL-5	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
US Naval Base, San Diego, Calif.	AFDL-6	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
	AFDL-7	1 pc, steel	1,900	DE, S, ATR, AM	288′ 0″	288′ 0″	273′ 0″	64′ 0″	45′ 0″	18′ 3″	31′ 4″	3′ 3″	1943	1944
Jacksonville, Fla.	AFDL-8[8]	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1943
Long Beach, Calif.	AFDL-9[8]	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1943
	AFDL-10	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1943
	AFDL-11	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944

DRYDOCK CHARACTERISTICS SUMMARY (CONT.)

FLOATING DRYDOCKS

Location[1]	Dock designation	Type	Nominal lifting capacity (tons)[2]	Suitable in general for docking	Size									Construction	
					Length overall	Length[3] on pontoon	Length on blocks	Width overall molded	Width[4] clear inside	Draft over blocks	Draft[5] max when submerged	Draft[6] light	Start	Finish
					AFDL (continued)									
Long Beach, Calif.	AFDL-12	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1943
Rattlesnake, Fla.	AFDL-15[8]	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1943
Miami, Fla.	AFDL-16[8]	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1943
	AFDL-17	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1943
Little Creek, Va.	AFDL-18	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
San Diego, Calif.	AFDL-19	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
Port Hueneme, Calif.	AFDL-20	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
	AFDL-21	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
	AFDL-22	1 pc, steel	1,900	DE, S, ATR, AM	288′ 0″	288′ 0″	273′ 0″	64′ 0″	45′ 0″	18′ 3″	31′ 4″	3′ 3″	1943	1944
	AFDL-23	1 pc, steel	1,900	DE, S, ATR, AM	288′ 0″	288′ 0″	273′ 0″	64′ 0″	45′ 0″	18′ 3″	31′ 4″	3′ 3″	1943	1944
Bremerton, Wash.	AFDL-25	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
Jacksonville, Fla.	AFDL-26[8]	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
	AFDL-27[8]	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
Key West, Naval Station	AFDL-28	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
Jacksonville, Fla.	AFDL-29[8]	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
San Diego, Naval Base	AFDL-30	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
USCG, Curtis Bay, Md.	AFDL-31	1 pc, steel	1,000	YN, AM	200′ 0″	200′ 0″	185′ 0″	64′ 0″	45′ 0″	14′ 6″	27′ 0″	3′ 5″	1943	1944
Bremerton, Wash.	AFDL-33	1 pc, steel	1,900	DE, S, ATR, AM	288′ 0″	288′ 0″	273′ 0″	64′ 0″	45′ 0″	18′ 3″	31′ 4″	3′ 5″	1943	1944
	AFDL-35	1 pc, concrete	2,800	DD, SS, LST	389′ 0″	389′ 0″	345′ 6″	84′ 0″	58′ 0″	19′ 0″	38′ 6″	10′ 0″	1943	1944
San Diego, Calif.	AFDL-37[8]	1 pc, concrete	2,800	DD, SS, LST	389′ 0″	389′ 0″	345′ 6″	84′ 0″	58′ 0″	19′ 0″	38′ 6″	10′ 0″	1944	1944
San Francisco, Naval Shipyard	AFDL-38	1 pc, concrete	2,800	DD, SS, LST	389′ 0″	389′ 0″	345′ 6″	84′ 0″	58′ 0″	19′ 0″	38′ 6″	9′ 4″	1944	1944
Puget Sound, Naval Shipyard	AFDL-39	1 pc, concrete	2,800	DD, SS, LST	389′ 0″	389′ 0″	345′ 6″	84′ 0″	58′ 0″	19′ 0″	38′ 6″	9′ 4″	1944	1944
	AFDL-40[8]	1 pc, concrete	2,800	DD, SS, LST	389′ 0″	389′ 0″	345′ 6″	84′ 0″	58′ 0″	19′ 0″	38′ 6″	10′ 0″	1943	1944
Oakland, Calif.	AFDL-41[8]	1 pc, concrete	2,800	DD, SS, LST	389′ 0″	389′ 0″	345′ 6″	84′ 0″	58′ 0″	19′ 0″	38′ 6″	10′ 0″	1943	1944
Long Beach, Calif.	AFDL-42	1 pc, concrete	2,800	DD, SS, LST	389′ 0″	389′ 0″	345′ 6″	84′ 0″	58′ 0″	19′ 0″	38′ 6″	9′ 4″	1944	1944
San Diego, Naval Base	AFDL-43	1 pc, concrete	2,800	DD, SS, LST	389′ 0″	389′ 0″	345′ 6″	84′ 0″	58′ 0″	19′ 0″	38′ 6″	9′ 4″	1944	1944
San Diego, Naval Base	AFDL-44	1 pc, concrete	2,800	DD, SS, LST	389′ 0″	389′ 0″	345′ 6″	84′ 0″	58′ 0″	19′ 0″	38′ 6″	9′ 4″	1944	1944
Seattle, Wash.	AFDL-45[8]	1 pc, concrete	2,800	DD, SS, LST	389′ 0″	389′ 0″	345′ 6″	84′ 0″	58′ 0″	19′ 0″	38′ 6″	9′ 4″	1944	1944
	AFDL-47	1 pc, steel	6,500	DD, SS, LST, EC2	489′ 0″[13]	448′ 0″	435′ 6″	97′ 0″	70′ 0″	26′ 0″	42′ 4″	4′ 2″	1945	1947
	AFDL-48	1 pc, concrete	4,000	DD, SS, LST 1153 and 1156	400′ 0″	400′ 0″	375′ 6″	96′ 0″	66′ 4″	22′ 0″	46′ 10″[14]	13′ 5″[15]	1953	1955

[1] Docks for which location is not given are assigned to advanced bases.

[2] Nominal lifting capacity is with an 18-in. pontoon freeboard for capacities greater than 12,000 tons, and with a 12-in. pontoon freeboard for capacities of 12,000 tons or less unless otherwise noted.

[3] For ARD-2 and ARD-5 through ARD-32, the length on pontoon is the net clear length between the closed bow and the stern gate.

[4] Width clear inside is between permanent obstructions.

[5] Draft maximum when submerged is determined by full load conditions, the use of the emergency ballast tanks, if any, and trim.

[6] Draft light is based upon stripped ballast tanks and light load conditions.

[7] Includes two 50′ 0″ outriggers.

[8] Leased to commercial repair yard.

[9] Includes two 35′ 10″ outriggers.

[10] Nominal lifting capacity is with a 9-in. pontoon freeboard.

[11] Includes two 35′ 0″ outriggers.

[12] Nominal lifting capacity is with a 7-in. pontoon freeboard.

[13] Includes two 20′ 6″ outriggers.

[14] Including 1′ 6″ pump sumps.

[15] With 10 in. of ballast water in all tanks.

DRYDOCK CHARACTERISTICS SUMMARY (CONT.)

FLOATING DRYDOCKS

Location[1]	Dock designation	Type	Nominal lifting capacity (tons)[2]	Suitable in general for docking	Size								Construction	
					Length overall	Length[3] on pontoon	Length on blocks	Width overall molded	Width[4] clear inside	Draft over blocks	Draft[5] max when submerged	Draft[6] light	Start	Finish
ARD														
	ARD-2	1 pc, steel	3,500	DD, SS	485′ 8″	413′ 6″	389′ 0″	71′ 0″	49′ 4″	21′ 9″	32′ 6″	4′ 10″	1941	1942
New London, Conn.	ARD-5	1 pc, steel	3,500	DD, SS	485′ 8″	413′ 6″	389′ 0″	71′ 0″	49′ 4″	21′ 9″	32′ 6″	5′ 1″	1941	1942
Green Cove Springs, Fla.	ARD-6	1 pc, steel	3,500	DD, SS	485′ 8″	413′ 6″	389′ 0″	71′ 0″	49′ 0″	21′ 9″	32′ 6″	5′ 3″	1942	1943
New London, Conn.	ARD-7	1 pc, steel	3,500	DD, SS	485′ 8″	413′ 6″	389′ 0″	71′ 0″	49′ 0″	21′ 9″	32′ 6″	5′ 3″	1942	1943
Long Beach, Calif.	ARD-8	1 pc, steel	3,500	DD, SS	485′ 8″	413′ 6″	389′ 0″	71′ 0″	49′ 0″	21′ 9″	32′ 6″	5′ 3″	1943	1943
San Diego, Calif.	ARD-9	1 pc, steel	3,500	DD, SS	485′ 8″	413′ 6″	389′ 0″	71′ 0″	49′ 0″	21′ 9″	32′ 6″	5′ 3″	1943	1943
Long Beach, Calif.	ARD-10	1 pc, steel	3,500	DD, SS	485′ 8″	413′ 6″	389′ 0″	71′ 0″	49′ 0″	21′ 9″	32′ 6″	5′ 3″	1943	1943
Mare Island, Naval Shipyard	ARD-11	1 pc, steel	3,500	DD, SS	485′ 8″	413′ 6″	389′ 0″	71′ 0″	49′ 0″	21′ 9″	32′ 6″	5′ 3″	1943	1943
Charleston, S. C.	ARD-12	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 6″	32′ 10″	5′ 8″	1943	1943
Green Cove Springs, Fla.	ARD-13	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 6″	32′ 10″	5′ 8″	1943	1943
Green Cove Springs, Fla.	ARD-14	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 6″	32′ 10″	5′ 8″	1943	1943
Charleston Naval Shipyard	ARD-15	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 6″	32′ 10″	5′ 8″	1943	1944
	ARD-16	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 6″	32′ 10″	5′ 8″	1943	1944
Boston, Mass.	ARD-17	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 6″	32′ 10″	5′ 8″	1943	1944
	ARD-18	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1943	1944
Orange, Tex.	ARD-19	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1943	1944
Long Beach, Calif.	ARD-20	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1943	1944
	ARD-22	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1944	1944
San Diego, Calif.	ARD-23	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1944	1944
Long Beach, Calif.	ARD-24	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1944	1944
	ARD-25	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1944	1944
Tongue Point, Oreg.	ARD-26	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1944	1944
	ARD-27	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1944	1944
	ARD-28	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1944	1944
	ARD-29	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1944	1944
Tongue Point, Oreg.	ARD-30	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1944	1944
Long Beach, Calif.	ARD-31	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1944	1944
Mare Island, Naval Shipyard	ARD-32	1 pc, steel	3,500	DD, SS, LST	491′ 8″	413′ 6″	389′ 0″	81′ 0″	59′ 0″	20′ 9″	33′ 3″	5′ 8″	1944	1944
YFD														
Brooklyn, N. Y.	YFD-7[7]	3 pc, steel	18,000	CA, CL, CVE	622′ 0″[8]	552′ 0″	543′ 6″	124′ 0″	93′ 2″	28′ 0″	48′ 10″	5′ 4″	1942	1943
Hoboken, N. J.	YFD-8[7]	6 sect., timber	20,000	CA, CL, CVE	658′ 11″[9]	587′ 3″	580′ 3″	132′ 6″	98′ 0″	25′ 8″	49′ 8″	8′ 3″	1941	1942

DRYDOCK CHARACTERISTICS SUMMARY (CONT.)

FLOATING DRYDOCKS

Location[1]	Dock designation	Type	Nominal lifting capacity (tons)[2]	Suitable in general for docking	Size								Construction	
					Length overall	Length[3] on-pontoon	Length on blocks	Width overall molded	Width[4] clear inside	Draft over blocks	Draft[5] max when submerged	Draft[6] light	Start	Finish
					YFD (continued)									
Hoboken, N. J.	YFD-9[7]	5 sect., timber	16,000	CA, CL, CVE	560′ 8″[9]	489′ 0″	482′ 0″	132′ 6″	98′ 0″	25′ 8″	49′ 8″	8′ 3″	1941	1942
Hoboken, N. J.	YFD-12[7]	6 sect., timber	20,000	CA, CL, CVE	659′ 3″[10]	587′ 3″	564′ 5″	132′ 6″	97′ 0″	25′ 8″	49′ 8″	8′ 5″	1942	1943
Hoboken, N. J.	YFD-13[7]	6 sect., timber	20,000	CA, CL, CVE	659′ 3″[10]	587′ 3″	564′ 5″	132′ 6″	97′ 0″	25′ 8″	49′ 8″	8′ 5″	1942	1943
Charleston, S. C.	YFD-15[7]	4 sect., timber	6,500	DD, SS, LST	425′ 8″[11]	354′ 0″	348′ 2″	116′ 0″	88′ 0″	25′ 0″	43′ 9″	7′ 1″	1942	1943
Jacksonville, Fla.	YFD-16[7]	6 sect., timber	12,000	CL, C4, T3	557′ 0″[12]	496′ 4″	506′ 11″	112′ 2″	87′ 2″	25′ 0″	43′ 1″	4′ 3″	1942	1943
Alameda, Calif.	YFD-18[7]	6 sect., timber	10,500	DD, CM, T3	543′ 8″[13]	472′ 0″	464′ 2″	114′ 0″	84′ 0″	25′ 0″	45′ 10″	7′ 10″	1942	1943
Alameda, Calif.	YFD-19[7]	6 sect., timber	10,500	DD, CM, T3	544′ 0″[10]	472′ 0″	456′ 2″	114′ 0″	84′ 0″	25′ 0″	45′ 10″	7′ 10″	1942	1943
Seattle, Wash.	YFD-23[7]	6 sect., timber	10,500	DD, CM, T3	542′ 0″[8]	472′ 0″	464′ 2″	114′ 0″	85′ 6″	25′ 0″	45′ 10″	7′ 10″	1942	1943
Norfolk, Va.	YFD-28[7]	1 pc, timber	1,000	AM, YN, LSM	240′ 0″[14]	200′ 0″	185′ 0″	64′ 7″	47′ 4″	14′ 0″	28′ 2″	4′ 3″	1942	1943
Galveston, Tex.	YFD-42[7]	1 pc, timber	1,000	AM, YN, LSM	240′ 0″[14]	200′ 0″	185′ 0″	64′ 8″	47′ 6″	14′ 0″	28′ 4″	4′ 3″	1942	1943
Seattle, Wash.	YFD-54[7]	1 pc, timber	5,000	DD, SS, LST	412′ 0″[12]	352′ 0″	345′ 4″	90′ 0″	64′ 10″	19′ 4″	37′ 0″	6′ 9″	1942	1943
San Francisco, Calif.	YFD-55[7]	6 sect., timber	10,500	DD, CM, T3	544′ 0″[10]	472′ 0″	456′ 2″	114′ 0″	84′ 0″	25′ 0″	45′ 10″	7′ 10″	1942	1943
San Pedro, Calif.	YFD-68[7]	3 pc, steel	14,000	CL, CVE, C4, T3	598′ 0″	528′ 0″	519′ 6″	118′ 0″	87′ 0″	28′ 0″	50′ 2″	5′ 8″	1944	1945
Portland, Oreg.	YFD-69[7]	3 pc, steel	14,000	CL, CVE, C4, T3	598′ 0″	528′ 0″	519′ 6″	118′ 0″	87′ 0″	28′ 0″	50′ 2″	5′ 8″	1944	1945
San Francisco, Calif.	YFD-70[7]	3 pc, steel	14,000	CL, CVE, C4, T3	598′ 0″	528′ 0″	519′ 6″	118′ 0″	87′ 0″	28′ 0″	50′ 2″	5′ 8″	1944	1945
Alameda, Calif.	YFD-71[7]	3 pc, steel	14,000	CL, CVE, C4, T3	598′ 0″	528′ 0″	519′ 6″	118′ 0″	87′ 0″	28′ 0″	50′ 2″	5′ 8″	1944	1945
Portsmouth, N. H.	YFD-82	1 pc, steel	2,200	DD, SS	393′ 6″	361′ 4″	321′ 0″	60′ 0″	40′ 4″	20′ 0″	30′ 0″	4′ 6″	1933	1934
USCG, Curtis Bay, Md.	CGFD-1	5 sect., steel and timber	3,000	DD, SS, LST	351′ 0″	298′ 4″	305′ 2″	84′ 0″	62′ 5″	20′ 0″	33′ 9″	4′ 0″	1941	1942

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[1] Docks for which location is not given are assigned to advanced bases.

[2] Nominal lifting capacity is with an 18-in. pontoon freeboard for capacities greater than 12,000 tons, and with a 12-in. pontoon freeboard for capacities of 12,000 tons or less unless otherwise noted.

[3] For ARD-2 and ARD-5 through ARD-32, the length on pontoon is the net clear length between the closed bow and the stern gate.

[4] Width clear inside is between permanent obstructions.

[5] Draft maximum when submerged is determined by full load conditions, the use of the emergency ballast tanks, if any, and trim.

[6] Draft light is based upon stripped ballast tanks and light load conditions.

[7] Leased to commercial repair yard.

[8] Includes two 35′ 0″ outriggers.

[9] Includes two 35′ 10″ outriggers.

[10] Includes two 36′ 0″ outriggers.

[11] Includes two 35′ 4″ outriggers.

[12] Includes two 30′ 0″ outriggers.

[13] Includes two 35′ 8″ outriggers.

[14] Includes two 20′ 0″ outriggers.

DRYDOCK CHARACTERISTICS SUMMARY (CONT.)

MARINE RAILWAYS

Location		Capacity (long tons)	Length on blocks	Clear width	MHW Draft over blocks		Mean tide range	Suitable for docking
					Fore	Aft		
Adak, Alaska		1,000[1]	190′ 0″	50′ 8″[9]	18′ 8″	20′ 8″	3.0′	Service craft such as YTB, YOG, YO
Annapolis, Md.		175	96′ 0″	36′ 0″	13′ 0″	14′ 0″	2.5′	SC and barges
Boston, Mass.		2,000[8]	332′ 0″	42′ 0″	14′ 5″	17′ 11″	9.6′	SS, DE, and fleet tugs
Cristobal, C. Z.,	No. 2[2]	1,000	180′ 0″	42′ 0″	14′ 0″	15′ 10″	0.9′	PC, small auxiliaries, and tugs
Davisville, R. I.		10	16′ 0″	9′ 0″	7′ 0″	9′ 5″	4.0′	Small craft
Guantanamo Bay, Cuba,	No. 2	15	23′ 5″	9′ 0″	6′ 11″	9′ 0″	1.0′	Small craft
	No. 3	15	. . .	10′ 6″	0′ 10¾″	2′ 6″	1.0′	Motor launches up to 50 ft
	No. 4	30	44′ 0″	24′ 4″	7′ 0″	10′ 0″	1.0′	Small craft and barges
Key West, Fla.		3,000	368′ 0″	51′ 0″	19′ 0″	22′ 6″	1.8′	SS, DD, DL, and Fleet tugs
Little Creek, Va.		500	180′ 0″	35′ 0″	14′ 1″	16′ 0″	2.5′	PC, YMS, and small auxiliaries
New London, Conn.		3,000[3]	368′ 0″	51′ 0″	19′ 0″	22′ 6″	2.6′	SS, DD, DL, and Fleet tugs
Newport, R. I.		90[4]	104′ 0″	20′ 0″	9′ 3″	10′ 4″	3.7′	Station craft
Pearl Harbor, Hawaii,	No. 1	2,500[5]	332′ 0″	42′ 0″	14′ 7″	18′ 0″	1.5′	SS, DD, and Fleet tugs[11]
	No. 2	3,000	368′ 0″	51′ 0″	19′ 2″	22′ 8″	1.5′	SS, DD, DL, and Fleet tugs
Philadelphia, Pa.,	No. 1	3,000	368′ 0″	51′ 0″	22′ 0″	25′ 6″	5.6′	SS, DD, DL, and Fleet tugs
	No. 2	3,000	368′ 0″	51′ 0″	22′ 0″	25′ 6″	5.6′	SS, DD, DL, and Fleet tugs
Piney Point, Md.		25	30′ 0″	16′ 8″	6′ 3⅛″	6′ 3⅛″[10]	1.6′	Small craft
Quonset Point, R. I.		25	21′ 4″	17′ 8″	7′ ⅜″	7′ 11¼″	3.8′	Crashboats
San Diego, Calif., Fleet Sonar School, Naval Base		16	40′ 0″	16′ 7″	7′ 3″	12′ 4″	5.1′	Picketboat, 50 ft
San Diego, Calif., Naval Station		2,500[6]	332′ 0″	42′ 0″	16′ 9″	20′ 2″	3.9′	SS, DD, and Fleet tugs[11]
San Diego, Calif., Target Repair Base, Naval Station		72	19′ 0″	16′ 0″	7′ 0″	9′ 0″	5.1′	High-speed ship targets
Solomons, Md.[7]		200	160′ 0″	24′ 0″	3′ 9¾″	15′ 9¾″	1.3′	Station craft and small boats
Treasure Island, Calif.,	Pier 5	55	58′ 0″	28′ 0″	17′ 8″	17′ 8″	4.3′	Station craft and small tugs
	Pier 9	55	60′ 0″	21′ 0″[9]	15′ 0″	16′ 0″	4.3′	Station craft and small tugs
	Pier 9A	50	61′ 0″	25′ 2″	9′ 4¾″	12′ 10¾″	4.3′	Station craft and small tugs
Trinidad, B. W. I.		18	. . .	19′ 0″	5′ 3⅝″[10]	9′ 9⅝″[10]	2.7′	Small craft up to 72 ft
Washington, D. C.		500	140′ 0″	38′ 0″	7′ 6″	14′ 9″	2.9′	Barges, auxiliaries, and so on

Notes

[1] Limited to 800 tons because of faulty mechanism.

[2] Leased to Panama Canal Co.

[3] Subject to restrictions because of faulty cradle and hauling mechanism.

[4] Limited to 60 tons pending replacement of cradle.

[5] Limited to 1,726 tons.

[6] Limited to 1,250 tons by condition of cradle.

[7] Now under lease.

[8] Limited to 1,200 tons because of deficiency in hauling mechanism.

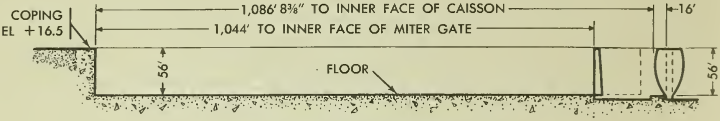
[9] Out-to-out width.

[10] To top of sill.

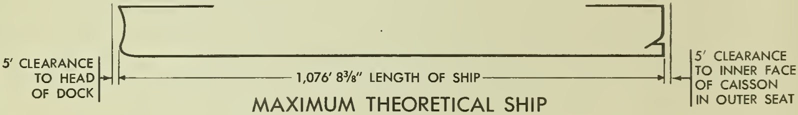
[11] Leaders and heavy destroyers can be docked at standard displacements only (1,726 tons).

GRAVING DOCKS

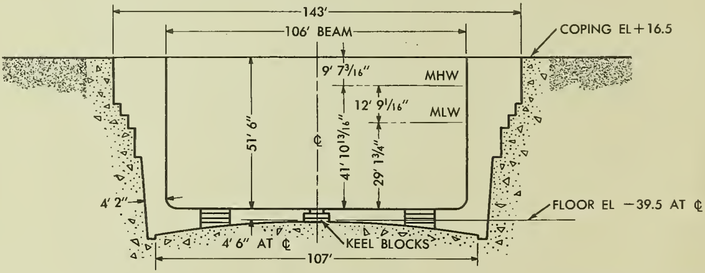
BALBOA, C. Z.
DRYDOCK NO. 1


COPING
EL +16.5
1,086′ 8⅜″ TO INNER FACE OF CAISSON
16′
1,044′ TO INNER FACE OF MITER GATE
56′
FLOOR
56′

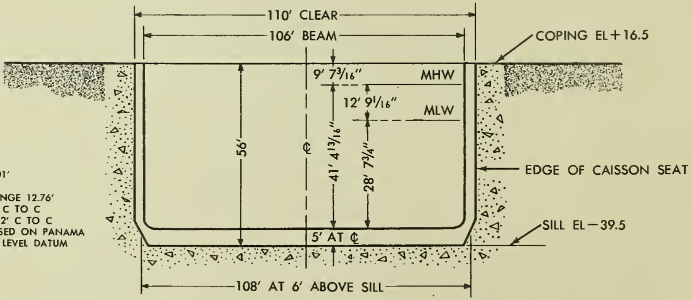
LONGITUDINAL SECTION
(VIEW LOOKING SOUTHEAST)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL + 6.901′
MLW EL − 5.857′
MEAN TIDAL RANGE 12.76′
KEEL BLOCKS 4′ C TO C
BILGE BLOCKS 12′ C TO C
ELEVATIONS BASED ON PANAMA
CANAL PRECISE LEVEL DATUM

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

BALBOA, C. Z.

DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING CB and carriers.

FOUNDATION Rock.

CONSTRUCTION MATERIAL Concrete and granite.

ENTRANCE CLOSURE Miter gate and caisson (ship section).

PUMPS Four 54-in., total capacity 463,760 gpm.
Two 20-in., total capacity 12,000 gpm.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER 1 hr 25 min average.

TIME TO FLOOD 45 min HT/LT average.

KEEL BLOCKS 4′ 6″ high, 1′ 2″ wide, 4′ 0″ long, spacing 4′ 0″ c to c.

CAPSTANS 11 electrically operated, reversible: 4 each side along body, 1 each side of entrance, 1 at head—120 fpm at 8,000 lb, 30 fpm at 35,000 lb. Also can be operated by hand.

CRANES

Hook	*Max lift with hook at CL*	*Max height above coping*
Main	50 long tons	′ ″ with hook at CL
Auxiliary	15 long tons	′ ″ with hook at CL
Whip	3 long tons	′ ″ at ′ ″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph, 62.5-cy	230/460	515
AC, 3-ph, 25-cy	230	1,060
AC, 1-ph, 25-cy	115/230	705
AC, 1-ph, 62.5-cy	115/230	100
DC	250	1,000
DC	125	800

FRESH WATER 10-in. mains with 1,500 gpm capacity, 6 outlets on each side, static pressure 100 psi.

SALT WATER Portable pump, 1,000 gpm.

FIRE PROTECTION 3,500 gpm. Pumper service available.

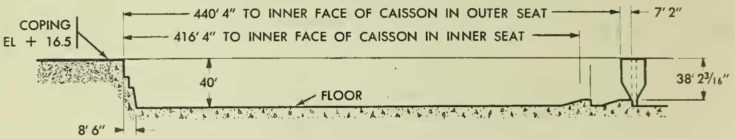
COMPRESSED AIR 16-in. main, 100 psi, 17 connections on north side, 12 connections on south side.

STEAM Two portable units.

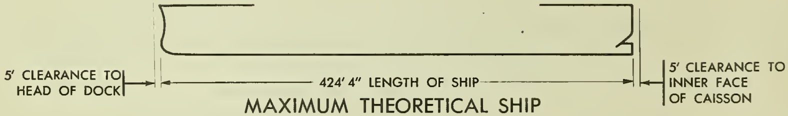
OXYGEN No installation. Bottled service only.

SANITARY SEWER INLETS None. Use facilities ashore.

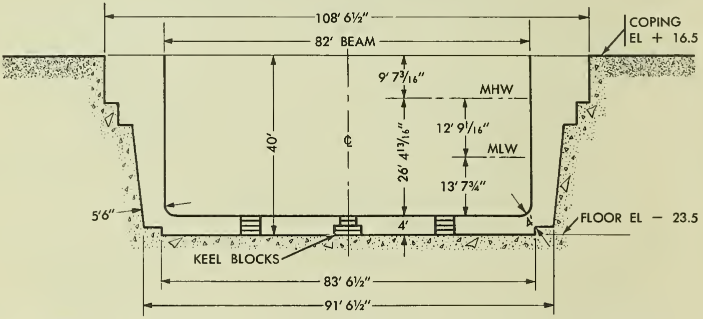
BALBOA, C. Z.
DRYDOCK NO. 2


COPING
EL + 16.5
440' 4" TO INNER FACE OF CAISSON IN OUTER SEAT
7' 2"
416' 4" TO INNER FACE OF CAISSON IN INNER SEAT
40'
FLOOR
38' 2 3/16"
8' 6"

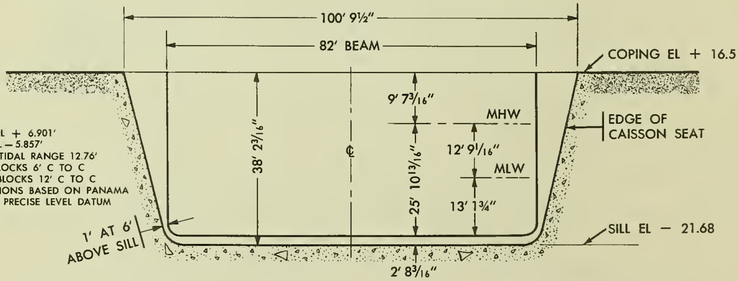
LONGITUDINAL SECTION
(VIEW LOOKING SOUTHEAST)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL + 6.901'
MLW EL − 5.857'
MEAN TIDAL RANGE 12.76'
KEEL BLOCKS 6' C TO C
BILGE BLOCKS 12' C TO C
ELEVATIONS BASED ON PANAMA
CANAL PRECISE LEVEL DATUM

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

BALBOA, C. Z.
DRYDOCK NO. 2

FUNCTION OF DRYDOCK Repair. (See Note 1.)

SUITABLE IN GENERAL FOR DOCKING DD and SS.

FOUNDATION Rock.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (box type).

PUMPS Two 24-in., total capacity 45,000 to 20,000 gpm.
Two 16-in., total capacity 15,400 to 11,000 gpm.
These pumps also serve Drydock No. 3.

METHOD OF FLOODING Flooding through culverts and limited flooding through caisson.

TIME TO DEWATER 2 hr 30 min average.

TIME TO FLOOD 40 min HT/LT average.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 5 electrically operated: 1 each side at caisson, 1 each side at entrance—30 fpm at 24,000 lb, 60 fpm at 12,000 lb; 1 at head of dock—30 fpm at 12,000 lb, 60 fpm at 6,000 lb.

CRANES

Hook	*Max lift with hook at CL*	*Max height above coping*
Main	50 long tons	′ ″ with hook at CL
Auxiliary	15 long tons	′ ″ with hook at CL
Whip	3 long tons	′ ″ at ′ ″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph, 62.5-cy	230/460	625 (Note 2)
AC, 3-ph, 25-cy	230	500 (Note 3)
AC, 1-ph, 25-cy	115/230	425

FRESH WATER 6-in. main with 500 gpm capacity, 6 outlets on one side, static pressure 100 psi.

SALT WATER 8-in. main with 500 gpm capacity, 3 outlets on one side, normal pressure 40 psi.

FIRE PROTECTION 3,500 gpm. Pumper service available.

COMPRESSED AIR 6-in. main, 100 psi, 9 connections on north side.

STEAM Two portable units.

OXYGEN No installation. Bottled service only.

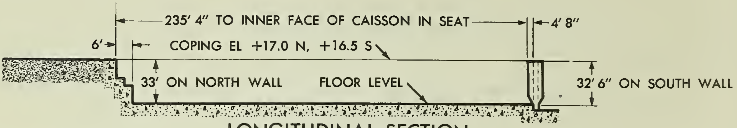
SANITARY SEWER INLETS 6-in. main on both sides, 18 inlets on each spaced 36 ft c to c.

Note 1. This drydock inactivated—flooded.

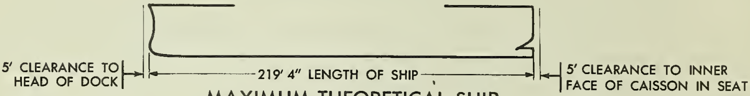
Note 2. These outlets may be used for Drydock No. 2 or No. 3.

Note 3. Drydocks Nos. 2 and 3 supplied by same transformer.

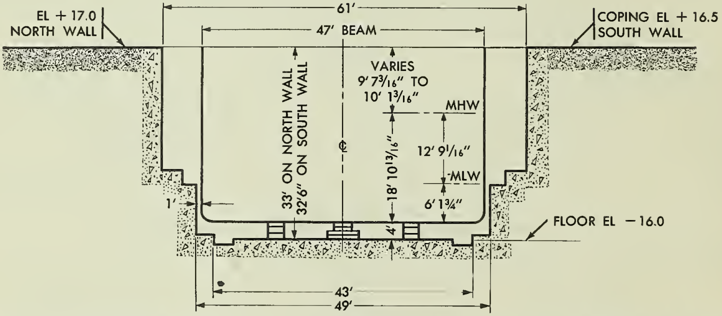
BALBOA, C. Z.
DRYDOCK NO. 3


235' 4" TO INNER FACE OF CAISSON IN SEAT
4' 8"
6'
COPING EL +17.0 N, +16.5 S
33' ON NORTH WALL
FLOOR LEVEL
32' 6" ON SOUTH WALL

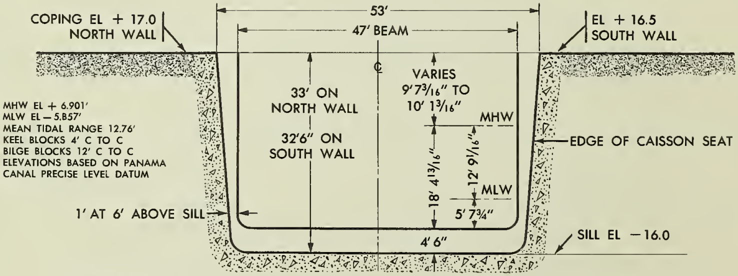
LONGITUDINAL SECTION
(VIEW LOOKING SOUTHEAST)


5' CLEARANCE TO HEAD OF DOCK
219' 4" LENGTH OF SHIP
5' CLEARANCE TO INNER FACE OF CAISSON IN SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL + 6.901'
MLW EL − 5.857'
MEAN TIDAL RANGE 12.76'
KEEL BLOCKS 4' C TO C
BILGE BLOCKS 12' C TO C
ELEVATIONS BASED ON PANAMA CANAL PRECISE LEVEL DATUM

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

BALBOA, C. Z.
DRYDOCK NO. 3

FUNCTION OF DRYDOCK Repair. (See Note 1.)

SUITABLE IN GENERAL FOR DOCKING PC and small auxiliaries.

FOUNDATION Rock.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (box type).

PUMPS Two 24-in., total capacity 45,000 to 20,000 gpm.
Two 16-in., total capacity 15,400 to 11,000 gpm.
These pumps also serve Drydock No. 2.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER 30 min average.

TIME TO FLOOD 35 min HT/LT average.

KEEL BLOCKS 4′ 0″ high, 1′ 2″ wide, 4′ 0″ long, spacing 4′ 0″ c to c.

CAPSTANS 4 electrically operated: 1 at head, 1 at port end of caisson, 2 at starboard side of entrance—30 fpm at 12,000 lb, 60 fpm at 6,000 lb. The two starboard capstans also serve Drydock No. 2.

CRANES

Hook	*Max lift with hook at CL*	*Max height above coping*
Main	50 long tons	′ ″ with hook at CL
Auxiliary	15 long tons	′ ″ with hook at CL
Whip	3 long tons	′ ″ at - ′ ″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph, 62.5-cy	230/460	625 (Note 2)
AC, 3-ph, 25-cy	230	500 (Note 3)
AC, 1-ph, 25-cy	115/230	240

FRESH WATER 6-in. main with 500 gpm capacity, 4 outlets on one side, static pressure 100 psi.

SALT WATER 8-in. main with 500 gpm capacity, 2 outlets on one side, normal pressure 40 psi.

FIRE PROTECTION 3,500 gpm. Pumper service available.

COMPRESSED AIR 6-in. main, 100 psi, 6 connections on south side.

STEAM Two portable units.

OXYGEN No installations. Bottled service only.

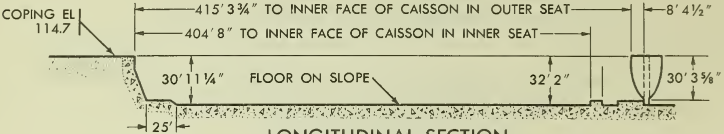
SANITARY SEWER INLETS 6-in. main on both sides, 8 inlets on each spaced 24 ft c to c.

Note 1. This drydock inactivated—flooded.

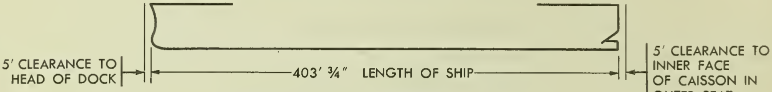
Note 2. These outlets may be used for Drydock No. 2 or No. 3.

Note 3. Drydocks Nos. 2 and 3 supplied by same transformer.

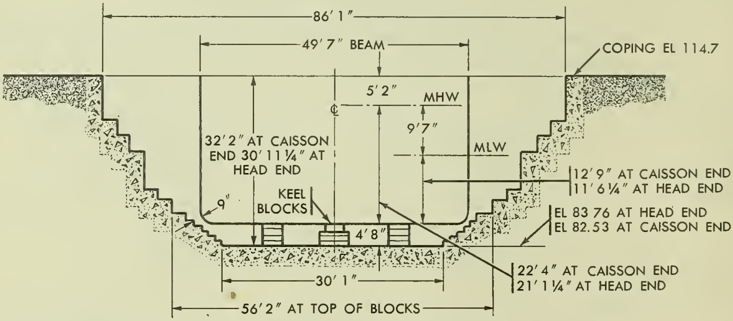
BOSTON, MASS., NAVAL SHIPYARD
DRYDOCK NO. 1


COPING EL 114.7
415′ 3¾″ TO INNER FACE OF CAISSON IN OUTER SEAT
8′ 4½″
404′ 8″ TO INNER FACE OF CAISSON IN INNER SEAT
30′ 11¼″
FLOOR ON SLOPE
32′ 2″
30′ 3⅝″
25′

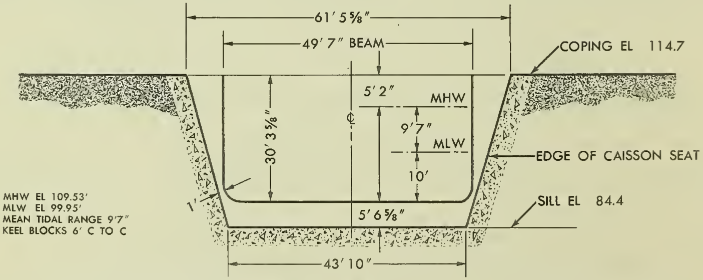
LONGITUDINAL SECTION
(VIEW LOOKING NORTHEAST)


5′ CLEARANCE TO HEAD OF DOCK
403′ ¾″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

BOSTON, MASS., NAVAL SHIPYARD

DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING SS and DD.

FOUNDATION Wood piles.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Two 48-in., total capacity 150,000 gpm. (Also used for Drydock No. 2.)

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER Minimum 45 min.

TIME TO FLOOD Minimum 50 min.

KEEL BLOCKS 4′ 8″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c, oak shoe, concrete body.

CAPSTANS 3 electrically and hand operated, nonreversible: 1 each side of dock at caisson and 1 at head of dock—64 fpm at no load, 7½, 19, 22, and 57½ fpm at various loads. 10 hand operated.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	118′ 0″ with hook at CL
Auxiliary	14.7 long tons	123′ 0″ with hook at CL
Whip	4.9 long tons	124′ 6″, 43′ 0″ minimum reach

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	220 or 440	400
DC	120/240	1,200

FRESH WATER One 10-in. main north side, total of 720 gpm at 20 psi from 4 outlets.
One 12-in. main south side, total of 360 gpm at 40 psi from 2 outlets.

SALT WATER No salt-water connections.

FIRE PROTECTION Fresh water, 2,500 to 3,500 gpm at 20 psi.

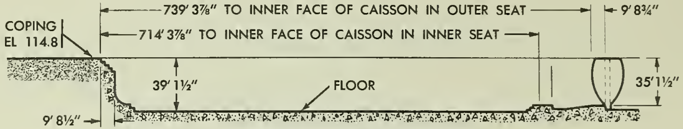
COMPRESSED AIR One 3-in. main north side, 300 cfm at 95 psi.
One 4-in. main south side, 900 cfm at 95 psi.

STEAM 2½-in. main, 3,200 lb per hr, 140 psi.

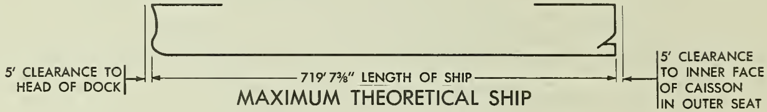
OXYGEN No installation.

SANITARY SEWER INLETS 8-in. main on both sides with 6 inlets on each spaced 50 ft c to c.

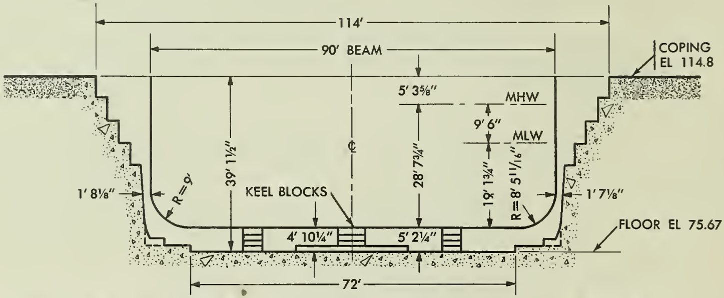
BOSTON, MASS., NAVAL SHIPYARD
DRYDOCK NO. 2


739′ 3⅞″ TO INNER FACE OF CAISSON IN OUTER SEAT
9′ 8¾″
COPING
EL 114.8
714′ 3⅞″ TO INNER FACE OF CAISSON IN INNER SEAT
39′ 1½″
FLOOR
35′ 1½″
9′ 8½″

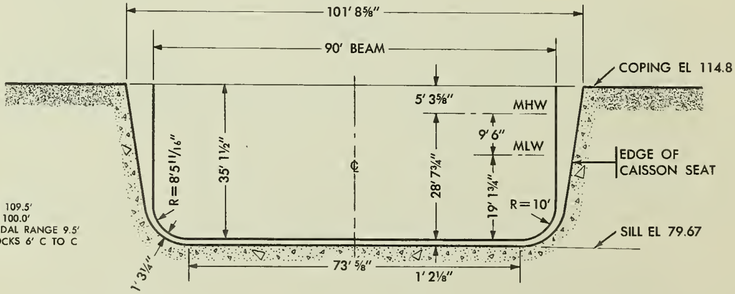
LONGITUDINAL SECTION
(VIEW LOOKING NORTHEAST)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 109.5′
MLW EL 100.0′
MEAN TIDAL RANGE 9.5′
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

BOSTON, MASS., NAVAL SHIPYARD
DRYDOCK NO. 2

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Blue clay and gravel.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Two 48-in., total capacity 150,000 gpm. (Also used for Drydock No. 1.)

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER Minimum 138 min.

TIME TO FLOOD Minimum 105 min.

KEEL BLOCKS 4′ 10¼″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c, oak and concrete.

CAPSTANS 3 electrically operated, nonreversible: 1 each side of dock at caisson and 1 at head of dock—110 fpm at no load, 100 fpm at 5,000 lb, 25 fpm at 20,000 lb.
5 electrically operated, nonreversible: 3 on northeast side and 2 on southwest side (one without motor)—84 fpm at no load, 75 fpm at 3,000 lb, 25 fpm at 9,000 lb. Also can be operated by hand.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	118′ 0″ with hook at CL
Auxiliary	14.7 long tons	123′ 0″ with hook at CL
Whip	4.9 long tons	124′ 6″, 43′ 0″ minimum reach

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	220 or 440	1,600
DC	120/240	3,400

FRESH WATER One 12-in. main north side, total of 1,080 gpm at 30 psi from 6 outlets.
One 12-in. main south side, total of 360 gpm at 40 psi from 2 outlets.

SALT WATER No salt-water connections.

FIRE PROTECTION Fresh water, 3,500 gpm, 150 psi (proposed).

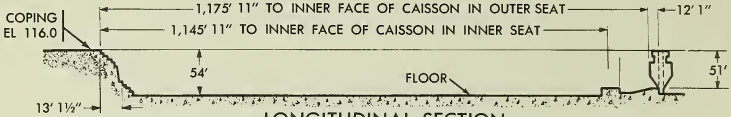
COMPRESSED AIR One 3-in./2-in. main north side, 5,000 cfm at 95 psi.
One 3-in./2-in. main south side, 5,000 cfm at 95 psi.

STEAM 3-in./2-in. main, 5,800 lb per hr, 140 psi.

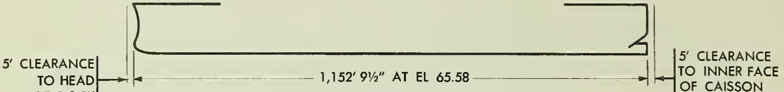
OXYGEN One 3-in. main, 125 psi.
One 2½-in. main, 125 psi.

SANITARY SEWER INLETS 8-in. main south side with 12 inlets spaced 50 ft c to c.
8-in. main north side with 13 inlets spaced 50 ft c to c.

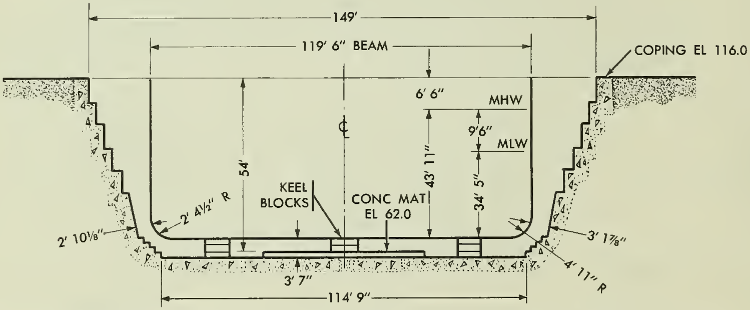
BOSTON, MASS., NAVAL SHIPYARD
DRYDOCK NO. 3 (SOUTH BOSTON ANNEX)


COPING EL 116.0
1,175′ 11″ TO INNER FACE OF CAISSON IN OUTER SEAT
12′ 1″
1,145′ 11″ TO INNER FACE OF CAISSON IN INNER SEAT
54′
FLOOR
51′
13′ 1½″

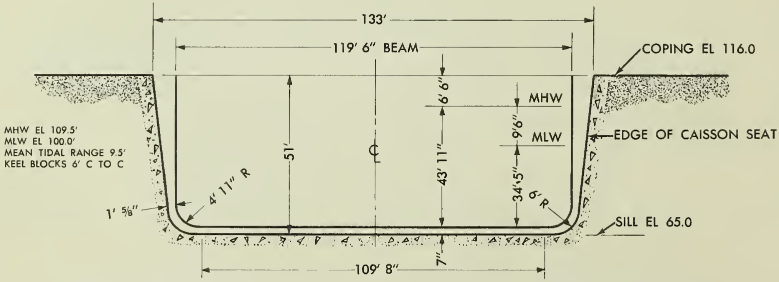
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)


5′ CLEARANCE TO HEAD OF DOCK
1,152′ 9½″ AT EL 65.58
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 109.5′
MLW EL 100.0′
MEAN TIDAL RANGE 9.5′
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

BOSTON, MASS., NAVAL SHIPYARD

DRYDOCK NO. 3

(South Boston Annex)

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Rock.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (hydrometer).

PUMPS Three 54-in., total capacity 300,000 gpm.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 150 min.

TIME TO FLOOD Minimum 90 min.

KEEL BLOCKS 3′ 7″ high, 3′ 6″ wide, 4′ 0″ long, spacing 6′ 0″ c to c, oak and concrete.

CAPSTANS 9 electrically operated, reversible: 4 each side of dock and 1 at head of dock—200 fpm at no load, 100 fpm at 1,000 lb, 90 fpm at 10,000 lb, 30 fpm at 30,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	110′ 0″ with hook at CL
Auxiliary	14.7 long tons	143′ 0″ with hook at CL
Whip	4.9 long tons	138′ 0″, 79′ 9″ minimum reach

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	3,200
DC	120/240	6,400

FRESH WATER 12-in. mains, 2,200 gpm.

SALT WATER 6-in. mains, 3,000 gpm.

FIRE PROTECTION Salt water, 5,400 gpm at 150 psi (in progress).

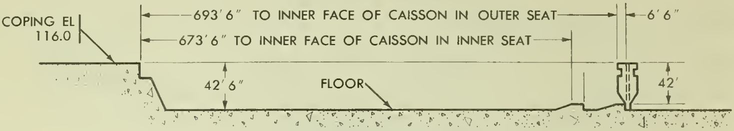
COMPRESSED AIR 4-in. main north side, 5,000 cfm at 95 psi.
4-in. main south side, 5,000 cfm at 95 psi.

STEAM One 3-in. main north side, 15,400 lb per hr at 100 psi.
One 4-in. main south side, 10,700 lb per hr at 100 psi.

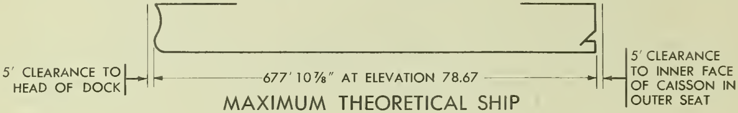
OXYGEN 3-in. main, 125 psi.

SANITARY SEWER INLETS 6-in. main south side with 15 inlets spaced 48 ft c to c.
6-in. main north side with 16 inlets spaced 48 ft c to c.

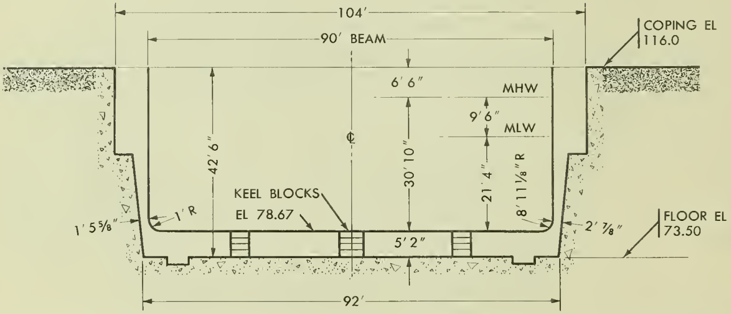
BOSTON, MASS., NAVAL SHIPYARD
DRYDOCK NO. 4 (SOUTH BOSTON ANNEX)


COPING EL 116.0
693′ 6″ TO INNER FACE OF CAISSON IN OUTER SEAT
6′ 6″
673′ 6″ TO INNER FACE OF CAISSON IN INNER SEAT
42′ 6″
FLOOR
42′

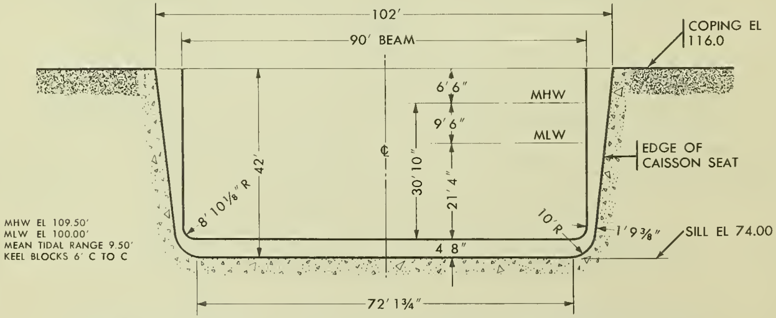
LONGITUDINAL SECTION
(VIEW LOOKING NORTHWEST)


5′ CLEARANCE TO HEAD OF DOCK
677′ 10⅞″ AT ELEVATION 78.67
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

BOSTON, MASS., NAVAL SHIPYARD
DRYDOCK NO. 4
(South Boston Annex)

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Rock and clay.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (hydrometer).

PUMPS Two 54-in., total capacity 220,000 gpm.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 105 min.

TIME TO FLOOD Minimum 60 min.

KEEL BLOCKS 5′ 2″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c, oak and concrete.

CAPSTANS 7 electrically operated, reversible: 2 at caissons, 1 each side—30 fpm at 24,000 lb; 2 each side along dock—30 fpm at 12,000 lb; 1 at head of dock—30 fpm at 24,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	41 long tons	118′ 0″ with hook at CL
Auxiliary		
Whip	5 long tons	124′ 6″, 43′ 0″ minimum reach

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	1,600
AC, 3-ph	115	800
DC	120/240	2,000

FRESH WATER 6-in. mains, 1,000 gpm at 30 psi.

SALT WATER 8-in. main, 1,500 gpm at 30 psi.

FIRE PROTECTION 3,500 gpm at 150 psi (proposed).

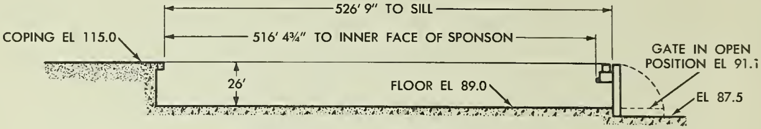
COMPRESSED AIR 6-in. mains, 5,000 cfm at 95 psi.

STEAM 6-in. mains, 15,000 lb per hr at 100 psi.

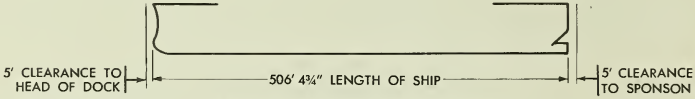
OXYGEN 3-in. main, 125 psi.

SANITARY SEWER INLETS 8-in. main on both sides with 30 inlets on each spaced 36 ft c to c.

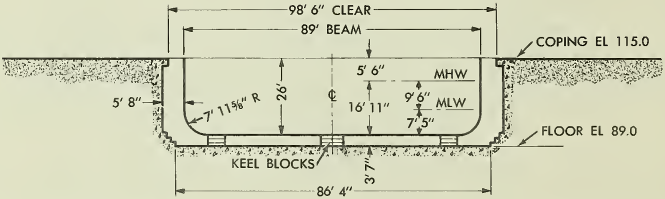
BOSTON, MASS., NAVAL SHIPYARD
DRYDOCK NO. 5


526′ 9″ TO SILL
516′ 4¾″ TO INNER FACE OF SPONSON
COPING EL 115.0
GATE IN OPEN POSITION EL 91.1
26′
FLOOR EL 89.0
EL 87.5

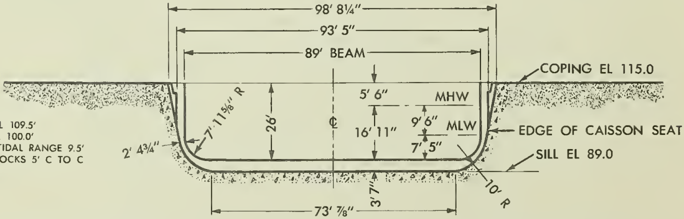
LONGITUDINAL SECTION
(VIEW LOOKING NORTHEAST)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 109.5′
MLW EL 100.0′
MEAN TIDAL RANGE 9.5′
KEEL BLOCKS 5′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

BOSTON, MASS., NAVAL SHIPYARD
DRYDOCK NO. 5

FUNCTION OF DRYDOCK Shipbuilding.

SUITABLE IN GENERAL FOR DOCKING Escort vessels and SS.

FOUNDATION Timber and steel piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Drop gate.

PUMPS Three 20-in., total capacity 45,000 gpm.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 150 min.

TIME TO FLOOD Minimum 120 min.

KEEL BLOCKS 3′ 7″ high basic—built up to 4′ 9″ high at present, 1′ 2″ wide, 3′ 6″ long, spacing 5′ 0″ c to c, oak and concrete.

CAPSTANS None.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	35.7 long tons	50′ 0″ with hook at CL
Auxiliary	15.2 long tons	50′ 0″ with hook at CL
Whip	2.2 long tons	69′ 0″, 35′ 0″ minimum reach

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	2,400
AC, 3-ph	115	1,200
DC	120/240	2,000

FRESH WATER Two 6-in. mains, 350 gpm at 40 psi.

SALT WATER No salt-water connections.

FIRE PROTECTION 3,500 gpm at 20 psi, fresh water (proposed).

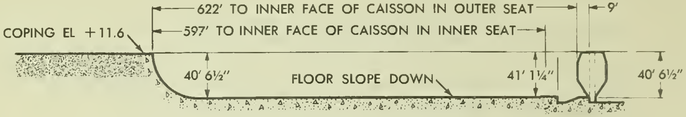
COMPRESSED AIR One 4-in. main north side, 5,000 cfm at 90 psi.
One 4-in. main south side, 5,000 cfm at 95 psi.

STEAM 4-in. mains, 22,400 lb per hr, 140 psi.

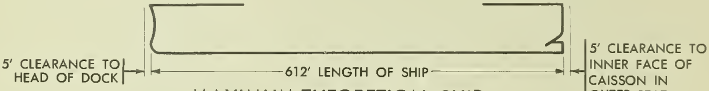
OXYGEN Two 2½-in. mains, 125 psi.

SANITARY SEWER INLETS None.

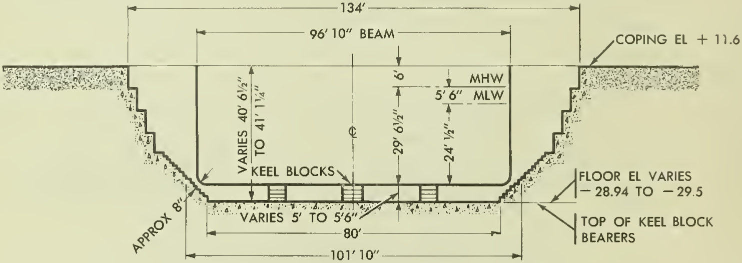
CHARLESTON, S. C., NAVAL SHIPYARD
DRYDOCK NO. 1


622′ TO INNER FACE OF CAISSON IN OUTER SEAT
9′
597′ TO INNER FACE OF CAISSON IN INNER SEAT
COPING EL +11.6
40′ 6½″
FLOOR SLOPE DOWN
41′ 1¼″
40′ 6½″

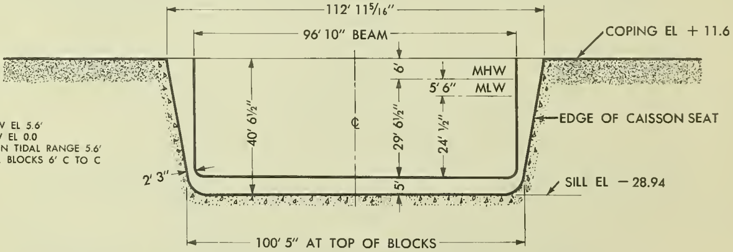
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)


5′ CLEARANCE TO HEAD OF DOCK
612′ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 5.6′
MLW EL 0.0
MEAN TIDAL RANGE 5.6′
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

CHARLESTON, S. C., NAVAL SHIPYARD
DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Earth.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caissons (fin-keel type).

PUMPS Two 48-in., total capacity 164,000 gpm.
Four 36-in., total capacity 160,000 gpm.
Two 16-in., total capacity 14,000 gpm.
Two 12-in., total capacity 10,000 gpm.

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER Minimum 150 min.

TIME TO FLOOD Minimum 90 min.

KEEL BLOCKS 5′ 0″ high, 3′ 6″ wide, 4′ 0″ long, spacing 6′ 0″ c to c.
5′ 3″ high, 3′ 6″ wide, 4′ 0″ long, spacing 6′ 0″ c to c.
5′ 6″ high, 3′ 6″ wide, 4′ 0″ long, spacing 6′ 0″ c to c.

CAPSTANS 7 electrically operated, reversible (1 at head of dock and 3 each side): 4—17 fpm at 12,000 lb, 1—30 fpm at 7,250 lb, 2—30 fpm at 6,750 lb.
Also can be operated by hand.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	43.3 long tons	70′ 10″ with hook at CL
Auxiliary	15 long tons	119′ 0″ with hook at CL
Whip	5 long tons	131′ 8″, 75′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	1,000
AC, 3-ph	220	1,700
AC, 3-ph	120/208	2,000
DC, 3-wire	125/250	2,400

FRESH WATER 3-in. mains, 400 gpm.

SALT WATER 4-in. mains, 500 gpm.

FIRE PROTECTION 2,000 gpm at 70 psi.

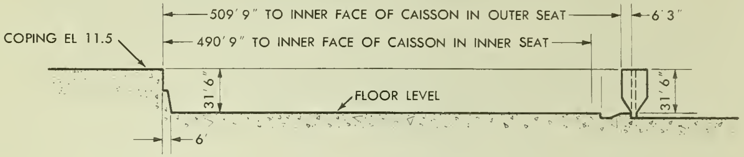
COMPRESSED AIR 3-in. main both sides, each 1,600 cfm at 90 psi.

STEAM 8-in. main, 2,100 lb per hr at 125 to 150 psi.

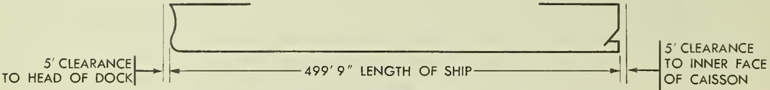
OXYGEN 1½-in. main, 20 cfm at 80 to 90 psi.

SANITARY SEWER INLETS 6-in. main both sides, 5 inlets on each with 1 space 55 ft c to c and 3 spaces 80 ft c to c.

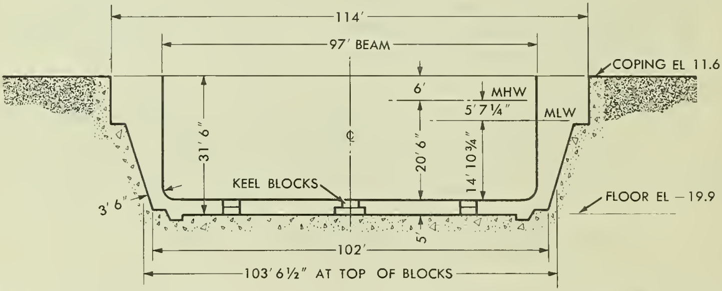
CHARLESTON, S. C., NAVAL SHIPYARD
DRYDOCK NO. 2


509′ 9″ TO INNER FACE OF CAISSON IN OUTER SEAT
6′ 3″
COPING EL 11.5
490′ 9″ TO INNER FACE OF CAISSON IN INNER SEAT
31′ 6″
FLOOR LEVEL
31′ 6″
6′

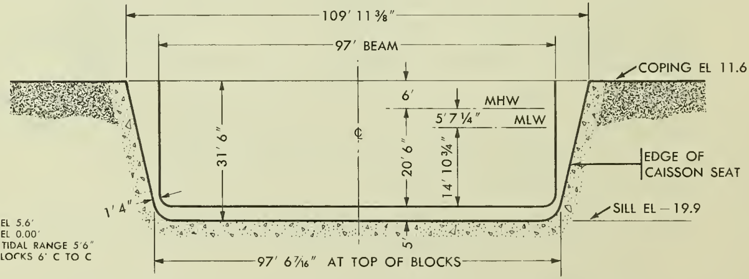
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 5.6′
MLW EL 0.00′
MEAN TIDAL RANGE 5′6″
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

CHARLESTON, S. C., NAVAL SHIPYARD
DRYDOCK NO. 2

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING 2 SS, 2 DD, or 1 C-3 merchant ship.

FOUNDATION Earth.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (rectangular box type).

PUMPS Two 48-in., total capacity 164,000 gpm.
Two 16-in., total capacity 14,000 gpm.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 90 min.

TIME TO FLOOD Minimum 60 min.

KEEL BLOCKS 5′ 0″ high, width 4′ 0″, length 3′ 6″, spacing 6′ 0″ c to c.

CAPSTANS 7 electrically operated, reversible: 1 at head of dock and 1 each side of caisson—30 fpm at 24,000 lb, 90 fpm at 8,000 lb, used as bollard up to 80,000 lb; 2 each side, intermediate—30 fpm at 12,000 lb, 90 fpm at 4,000 lb, used as bollard up to 60,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	49.1 long tons	77′ 5″ with hook at CL
Auxiliary	13.4 long tons	124′ 4″ with hook at CL
Whip	5 long tons	131′ 8″, 75′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	800
AC, 3-ph	220	1,000
AC, 3-ph	120/208	1,500
DC, 3-wire	125/250	1,200

FRESH WATER 6-in. mains, 450 gpm.

SALT WATER 6-in. mains, 500 gpm.

FIRE PROTECTION 2,000 gpm at 70 psi.

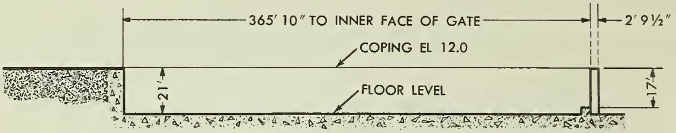
COMPRESSED AIR 6-in. main both sides, total capacity 2,000 cfm at 90 psi.

STEAM 6-in. mains, 2,100 lb per hr at 125 to 150 psi.

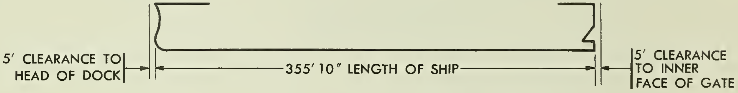
OXYGEN 1½-in. main, 16.7 cfm at 80 to 90 psi.

SANITARY SEWER INLETS None.

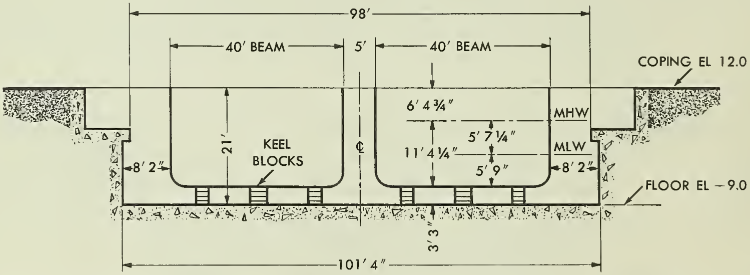
CHARLESTON, S. C., NAVAL SHIPYARD
DRYDOCK NO. 3



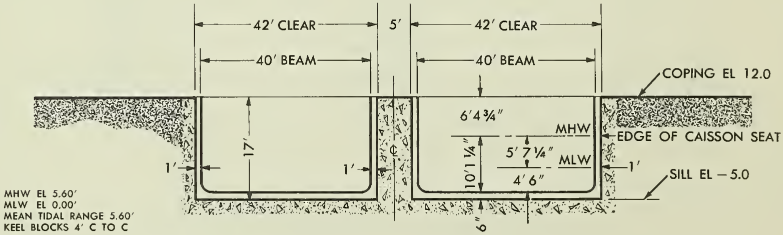
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)


5′ CLEARANCE TO HEAD OF DOCK
355′ 10″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF GATE

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

CHARLESTON, S. C., NAVAL SHIPYARD
DRYDOCK NO. 3

FUNCTION OF DRYDOCK Shipbuilding.

SUITABLE IN GENERAL FOR DOCKING 2 DE and escort vessels.

FOUNDATION Wood piles.

CONSTRUCTION MATERIAL Concrete and steel.

ENTRANCE CLOSURE Gate (vertical lift).

PUMPS Two 18-in., total capacity 12,000 gpm.
One 10-in., 1,500 gpm.
One 8-in., 500 gpm.

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER 8 hr minimum.

TIME TO FLOOD 2 hr minimum.

KEEL BLOCKS 3′ 3″ high, 1′ 0″ wide, 1′ 2″ long, spacing 4′ 0″ c to c.

CAPSTANS None.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	89′ 5″ with hook at CL
Auxiliary	13.4 long tons	124′ 4″ with hook at CL
Whip	5 long tons	131′ 8″, 75′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	230	750
AC, 3-ph	120/208	750

FRESH WATER 6-in. to 4-in. mains, 700 gpm at sidewalls, 350 gpm at center of dock.

SALT WATER None.

FIRE PROTECTION 3,000 gpm at 120 to 130 psi.

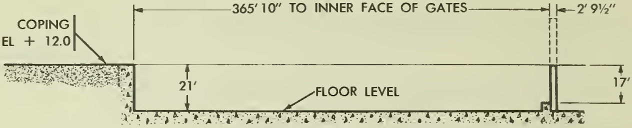
COMPRESSED AIR 5-in. and 3-in. mains both sides, 1,000 cfm at each sidewall, 500 cfm at center of dock, 90 to 100 psi.

STEAM None.

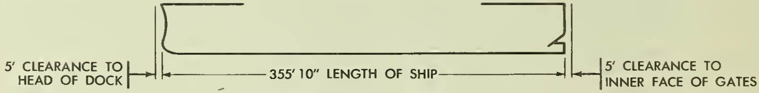
OXYGEN No installation.

SANITARY SEWER INLETS None.

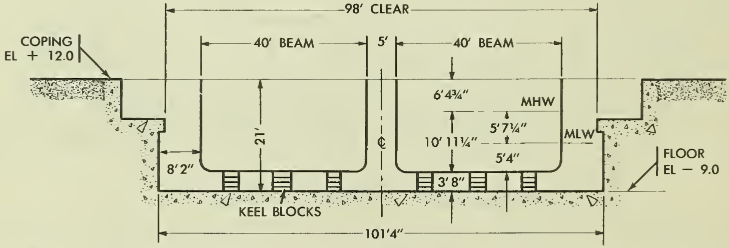
CHARLESTON, S. C., NAVAL SHIPYARD
DRYDOCK NO. 4



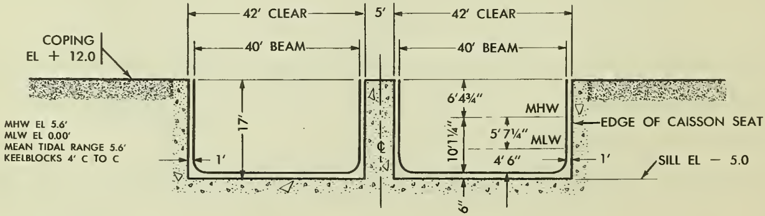
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

CHARLESTON, S. C., NAVAL SHIPYARD
DRYDOCK NO. 4

FUNCTION OF DRYDOCK Shipbuilding.

SUITABLE IN GENERAL FOR DOCKING 2 DE and escort vessels.

FOUNDATION Wood piles.

CONSTRUCTION MATERIAL Concrete and steel.

ENTRANCE CLOSURE Gate (vertical lift).

PUMPS Two 18-in., total capacity 12,000 gpm.
One 10-in., 1,500 gpm.
One 8-in., 500 gpm.

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER 8 hr minimum.

TIME TO FLOOD 2 hr minimum.

KEEL BLOCKS 3′ 8″ high, 1′ 0″ wide, 1′ 2″ long, spacing 4′ 0″ c to c.

CAPSTANS None.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	89′ 5″ with hook at CL
Auxiliary	13.4 long tons	124′ 4″ with hook at CL
Whip	5 long tons	131′ 8″, 75′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	230	750
AC, 3-ph	120/208	750

FRESH WATER 6-in. to 4-in. mains, 750 gpm at sidewalls, 350 gpm at center.

SALT WATER None.

FIRE PROTECTION 3,000 gpm at 120 to 130 psi.

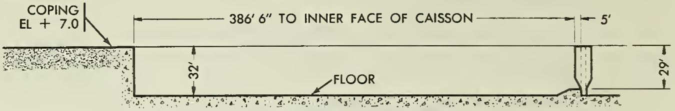
COMPRESSED AIR 5-in. and 3-in. mains both sides, 1,000 cfm at each sidewall, 500 cfm at center of dock, 90 psi.

STEAM None.

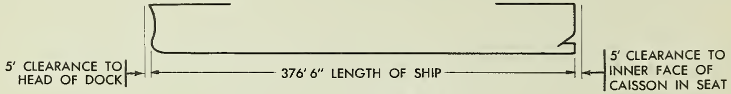
OXYGEN No installation.

SANITARY SEWER INLETS None.

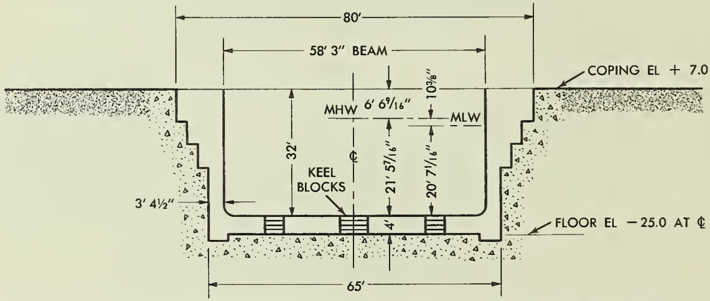
CRISTOBAL, C. Z.
DRYDOCK NO. 1



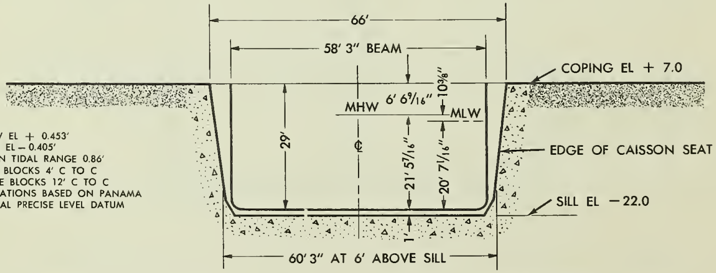
LONGITUDINAL SECTION
(VIEW LOOKING SOUTH)


5′ CLEARANCE TO HEAD OF DOCK
376′ 6″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL + 0.453′
MLW EL − 0.405′
MEAN TIDAL RANGE 0.86′
KEEL BLOCKS 4′ C TO C
BILGE BLOCKS 12′ C TO C
ELEVATIONS BASED ON PANAMA
CANAL PRECISE LEVEL DATUM

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

CRISTOBAL, C. Z.
DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING DD and SS.

FOUNDATION Rock.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (box type).

PUMPS Two 36-in., total capacity 50,000 gpm. One 10-in., 2,500 gpm.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER 115 min average.

TIME TO FLOOD 40 min average.

KEEL BLOCKS 4′ 0″ high, 1′ 2″ wide, 4′ 0″ long, spacing 4′ 0″ c to c.

CAPSTANS 3 electrically operated, reversible: 1 each side 22′ inboard from caisson sill, 1 at starboard side at head—45 fpm at 10,000 lb, 90 fpm at 5,000 lb.

CRANES

Hook	*Max lift with hook at CL*	*Max height above coping*
Main	35 long tons	47′ 0″ with hook at CL
Auxiliary		
Whip	2½ long tons	59′ 6″, 64′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph, 62-cy	230/460	515
AC, 3-ph, 25-cy	230	235
AC, 1-ph, 60-cy	115/230	60
AC, 1-ph, 25-cy	115/230	185
DC	125/250	900
DC	125	450
Welding circuits		550

FRESH WATER 4-in. mains with 500 gpm capacity, 4 outlets on each side, static pressure 60 to 75 psi.

SALT WATER 4-in. main with 800 gpm capacity, 4 outlets on one side, normal pressure 65 psi.

FIRE PROTECTION 4,000 gpm. Pumper service available.

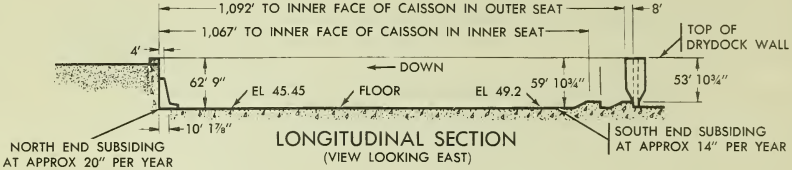
COMPRESSED AIR 6-in. mains, 6,000 cfm at 90 to 100 psi.

STEAM One portable unit.

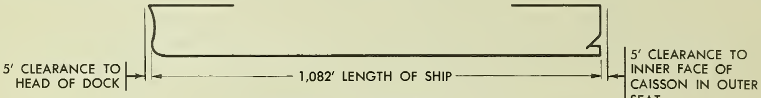
OXYGEN No installation. Bottled service only.

SANITARY SEWER INLETS None. Use facilities ashore.

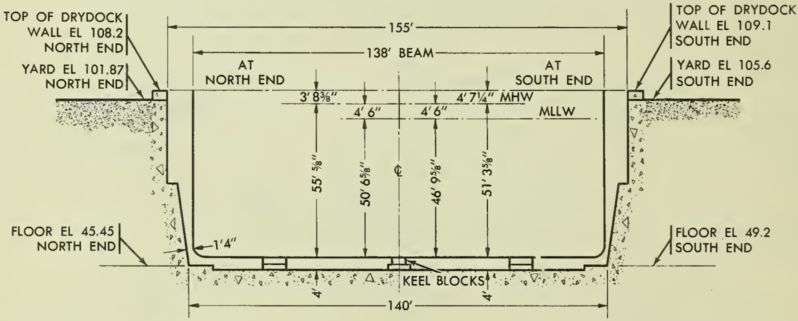
LONG BEACH, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 1


1,092′ TO INNER FACE OF CAISSON IN OUTER SEAT
8′
1,067′ TO INNER FACE OF CAISSON IN INNER SEAT
TOP OF DRYDOCK WALL
4′
DOWN
62′ 9″
EL 45.45
FLOOR
EL 49.2
59′ 10¾″
53′ 10¾″
10′ 1⅞″
NORTH END SUBSIDING AT APPROX 20″ PER YEAR
SOUTH END SUBSIDING AT APPROX 14″ PER YEAR

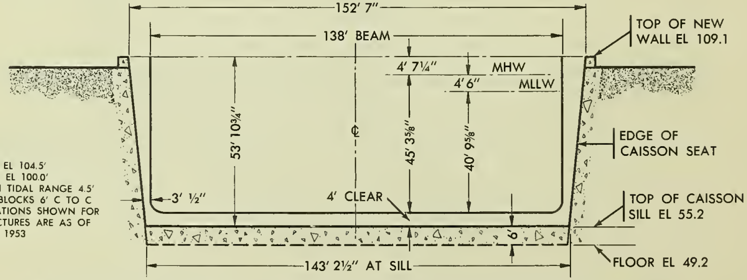
LONGITUDINAL SECTION
(VIEW LOOKING EAST)


5′ CLEARANCE TO HEAD OF DOCK
1,082′ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 104.5′
MLLW EL 100.0′
MEAN TIDAL RANGE 4.5′
KEEL BLOCKS 6′ C TO C
ELEVATIONS SHOWN FOR STRUCTURES ARE AS OF APRIL 1953

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

LONG BEACH, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Sand.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Steel caisson, box type, (concrete-box caisson for spare).

PUMPS Fourteen 20-in., total capacity 109,000 gpm (dewater).
Thirty-four 16-in., total capacity 170,000 gpm (dewater).
Three 16-in., total capacity 11,000 gpm (drainage).

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 270 min (no ship in dock).

TIME TO FLOOD Minimum 135 min.

KEEL BLOCKS 3′ 6″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 13 electrically operated, reversible: three 40-hp (2 at caisson and 1 at head of dock)—30 fpm at 30,000 lb; ten 20-hp spaced around dock—30 fpm at 15,000 lb.
Also can be operated by hand.

CRANES (Mobile only—no captive)

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	107′ 0″ with hook at CL
Auxiliary	17.7 long tons	123′ 0″ with hook at CL
Whip	5 long tons	140′ 0″, 102′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	12,000
AC, 3-ph	120/208	12,000
DC	125/250	4,800

FRESH WATER 6-in. mains, 3,000 gpm.

SALT WATER 8-in. mains, 835 gpm.

FIRE PROTECTION Salt water, 7,000 gpm at 120 psi.

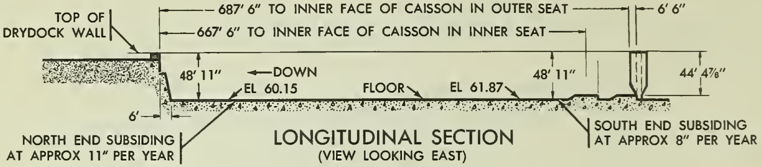
COMPRESSED AIR 6-in. mains, 6,000 cfm at 100 psi.

STEAM 6-in. mains, 6,000 lb per hr at 120 psi.

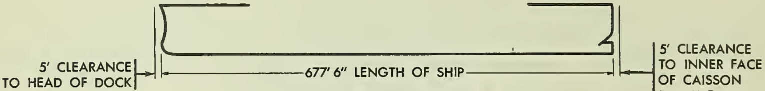
OXYGEN One 3-in. to one 1¾-in. distribution line, 276 cfm, 120 psi.

SANITARY SEWER INLETS 8-in. main on both sides with 28 inlets on each spaced 36 ft c to c.

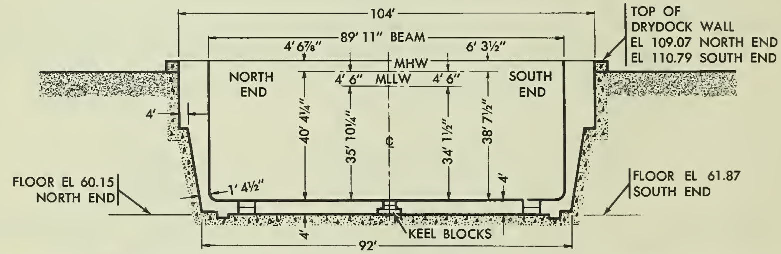
LONG BEACH, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 2


TOP OF DRYDOCK WALL
687' 6" TO INNER FACE OF CAISSON IN OUTER SEAT
6' 6"
667' 6" TO INNER FACE OF CAISSON IN INNER SEAT
48' 11"
DOWN
EL 60.15
FLOOR
EL 61.87
48' 11"
44' 4⅞"
6'
NORTH END SUBSIDING AT APPROX 11" PER YEAR
SOUTH END SUBSIDING AT APPROX 8" PER YEAR

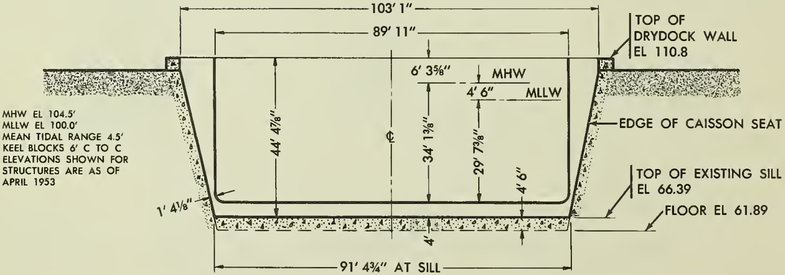
LONGITUDINAL SECTION
(VIEW LOOKING EAST)


5' CLEARANCE TO HEAD OF DOCK
677' 6" LENGTH OF SHIP
5' CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 104.5'
MLLW EL 100.0'
MEAN TIDAL RANGE 4.5'
KEEL BLOCKS 6' C TO C
ELEVATIONS SHOWN FOR STRUCTURES ARE AS OF APRIL 1953

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

LONG BEACH, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 2

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Sand.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Steel caisson, box type, (concrete-box caisson for spare).

PUMPS Ten 24-in., total capacity 180,000 gpm (dewater).
One 12-in., 2,500 gpm (drainage).

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 135 min (no ship in dock).

TIME TO FLOOD Minimum 90 min.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 7 electrically operated, reversible: three 40-hp (2 at caisson, 1 at head of dock)—30 fpm at 30,000 lb; four 20-hp spaced around dock—30 fpm at 15,000 lb. Also can be operated by hand.

CRANES (Mobile only—no captive)

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	107′ 0″ with hook at CL
Auxiliary	17.7 long tons	123′ 0″ with hook at CL
Whip	5 long tons	140′ 0″, 102′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	7,200
AC, 3-ph	120/208	800
DC	125/250	2,800

FRESH WATER 6-in. mains, 2,000 gpm.

SALT WATER 6-in. mains, 560 gpm.

FIRE PROTECTION 6,650 gpm at 120 psi.

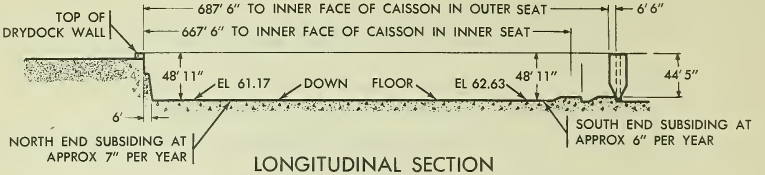
COMPRESSED AIR 6-in. mains, 5,000 cfm at 100 psi.

STEAM 6-in. mains, 4,000 lb per hr at 120 psi.

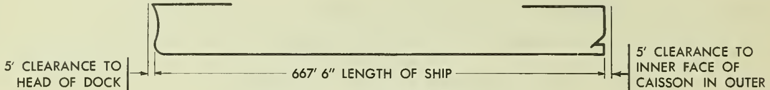
OXYGEN One 2½-in. to one 1¼-in. distribution line, 186 cfm, 120 psi.

SANITARY SEWER INLETS 8-in. main on both sides with 30 inlets on each spaced 36 ft c to c.

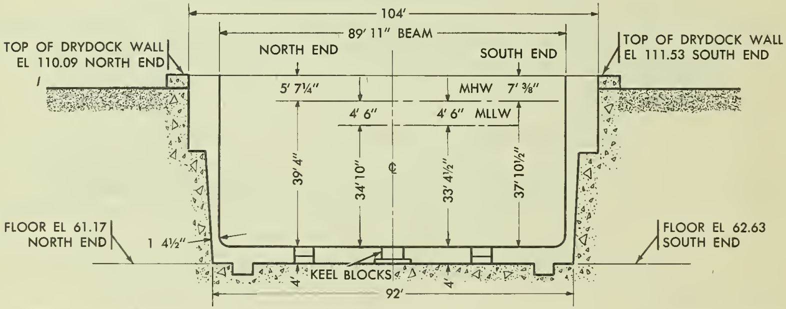
LONG BEACH, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 3


687′ 6″ TO INNER FACE OF CAISSON IN OUTER SEAT
6′ 6″
667′ 6″ TO INNER FACE OF CAISSON IN INNER SEAT
TOP OF DRYDOCK WALL
48′ 11″
EL 61.17
DOWN
FLOOR
EL 62.63
48′ 11″
44′ 5″
6′
NORTH END SUBSIDING AT APPROX 7″ PER YEAR
SOUTH END SUBSIDING AT APPROX 6″ PER YEAR

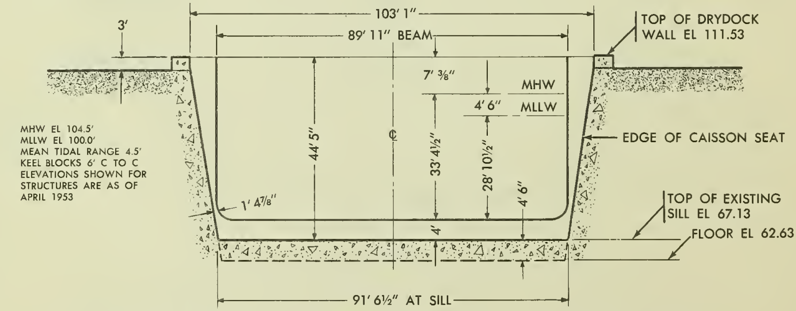
LONGITUDINAL SECTION
(VIEW LOOKING EAST)


5′ CLEARANCE TO HEAD OF DOCK
667′ 6″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 104.5′
MLLW EL 100.0′
MEAN TIDAL RANGE 4.5′
KEEL BLOCKS 6′ C TO C
ELEVATIONS SHOWN FOR STRUCTURES ARE AS OF APRIL 1953

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

LONG BEACH, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 3

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Sand.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Steel caisson, box type, (concrete-box caisson for spare).

PUMPS Ten 24-in., total capacity 180,000 gpm (dewater).
One 12-in., 2,500 gpm (drainage).

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 135 min (no ship in dock).

TIME TO FLOOD Minimum 90 min.

KEEL BLOCKS 3′ 6″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 7 electrically operated, reversible: three 40-hp (2 at caisson, 1 at head of dock) —30 fpm at 30,000 lb; four 20-hp spaced around dock—30 fpm at 15,000 lb. Also can be operated by hand.

CRANES (Mobile only—no captive)

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	107′ 0″ with hook at CL
Auxiliary	17.7 long tons	123′ 0″ with hook at CL
Whip	5 long tons	140′ 0″, 102′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	7,200
AC, 3-ph	120/208	800
DC	125/250	2,800

FRESH WATER 6-in. mains, 2,000 gpm.

SALT WATER 6-in. mains, 560 gpm.

FIRE PROTECTION 6,650 gpm at 120 psi.

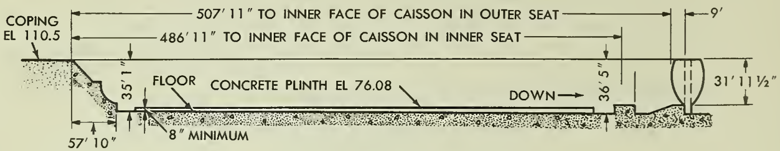
COMPRESSED AIR 6-in. mains, 5,000 cfm at 100 psi.

STEAM 6-in. mains, 4,000 lb per hr at 120 psi.

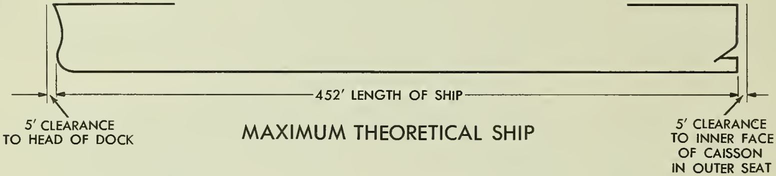
OXYGEN One 2½-in. to one 1¼-in. distribution line, 186 cfm, 120 psi.

SANITARY SEWER INLETS 8-in. main on both sides with 30 inlets on each spaced 36 ft c to c.

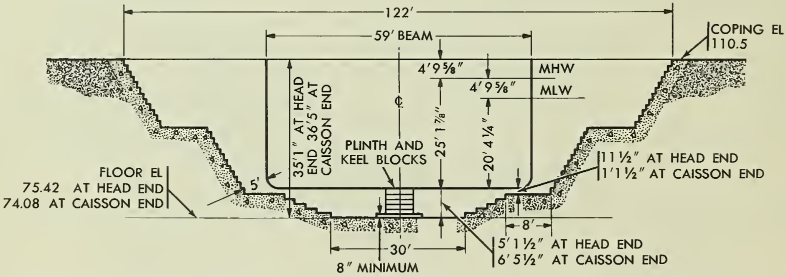
MARE ISLAND, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 1


507′ 11″ TO INNER FACE OF CAISSON IN OUTER SEAT
9′
COPING EL 110.5
486′ 11″ TO INNER FACE OF CAISSON IN INNER SEAT
35′ 1″
FLOOR
CONCRETE PLINTH EL 76.08
36′ 5″
DOWN
31′ 11½″
57′ 10″
8″ MINIMUM

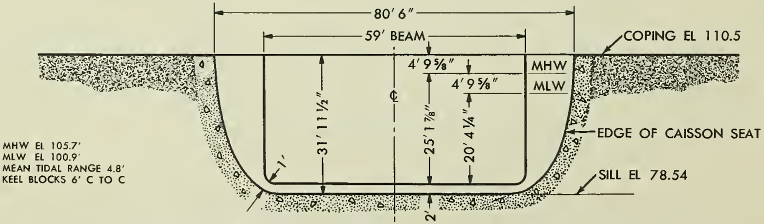
LONGITUDINAL SECTION
(VIEW LOOKING NORTHWEST)


452′ LENGTH OF SHIP
5′ CLEARANCE TO HEAD OF DOCK
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

MARE ISLAND, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING SS and DD.

FOUNDATION Earth.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Two 54-in., total capacity 208,000 gpm. These also are used for Drydock No. 2.

METHOD OF FLOODING Flooding through caisson or tunnels.

TIME TO DEWATER 75 min for normal operation.

TIME TO FLOOD 90 min for normal operation.

KEEL BLOCKS 3′ 0″ high, 3′ 6″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 3 electrically operated, reversible: 1 at head of dock—30 fpm at 20,000 lb, 90 fpm at 6,600 lb; 1 each side at entrance—30 fpm at 10,000 lb, 90 fpm at 3,300 lb. Also can be operated by hand.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	92′ 0″ with hook at CL
Auxiliary	15 long tons	138′ 0″ with hook at CL
Whip	5 long tons	126′ 0″, 79′ 6″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	4,000
AC, 3-ph	230	2,000
AC, 1-ph	120/240	200
DC	125/250	2,000

FRESH WATER 4-in. mains, 750 gpm at 60 psi.

SALT WATER One 8-in. main and one 6-in. main, total capacity, 2,600 gpm at 60 psi.

FIRE PROTECTION Same as fresh and salt water.

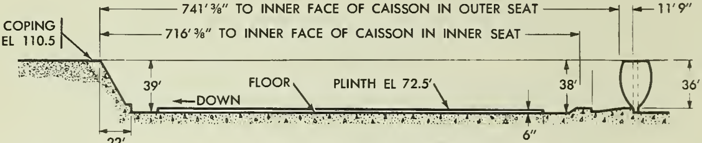
COMPRESSED AIR One 8-in. main, 7,000 cfm at 70 psi.

STEAM One 3-in. main, 4,000 lb per hr at 75 psi.

OXYGEN No installation.

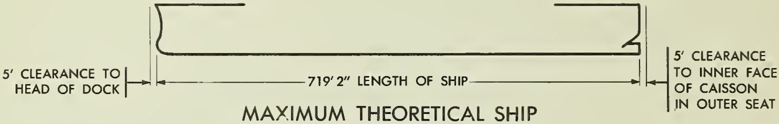
SANITARY SEWER INLETS None.

MARE ISLAND, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 2

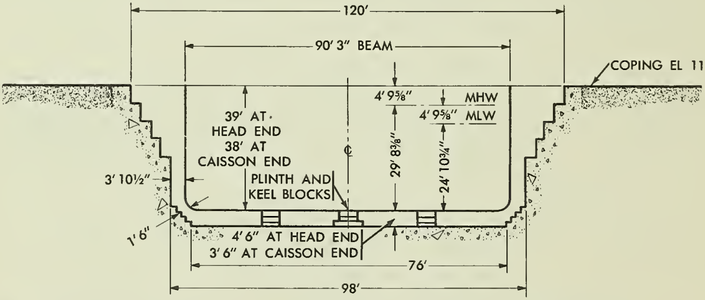

741′ ⅜″ TO INNER FACE OF CAISSON IN OUTER SEAT
11′ 9″
716′ ⅜″ TO INNER FACE OF CAISSON IN INNER SEAT
COPING EL 110.5
39′
FLOOR
PLINTH EL 72.5′
DOWN
38′
36′
22′
6″ MIN

LONGITUDINAL SECTION

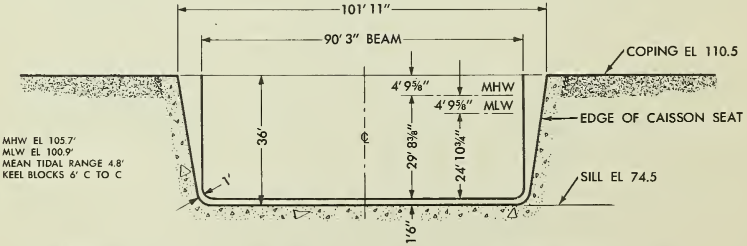
(VIEW LOOKING NORTH)


5′ CLEARANCE TO HEAD OF DOCK
719′ 2″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

MARE ISLAND, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 2

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Timber piles.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Two 54-in., total capacity 208,000 gpm. These also are used for Drydock No. 1.

METHOD OF FLOODING Flooding through caisson or tunnels.

TIME TO DEWATER 140 min for normal operation.

TIME TO FLOOD 75 min for normal operation.

KEEL BLOCKS 3′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 7 electrically operated, reversible: 1 at head of dock and 1 each side of entrance—30 fpm at 20,000 lb, 90 fpm at 6,600 lb; 2 each side of dock—90 fpm at 4,000 lb, 30 fpm at 11,000 lb.
Also can be operated by hand.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	94′ 0″ with hook at CL
Auxiliary	15 long tons	139′ 0″ with hook at CL
Whip	5 long tons	126′ 0″, 79′ 6″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	1,600
AC, 3-ph	230	1,000
AC, 1-ph	120/240	1,200
DC	125/250	2,400

FRESH WATER Two 4-in. mains, total capacity 750 gpm at 60 psi.

SALT WATER Two 6-in. mains, total capacity 2,000 gpm at 60 psi.

FIRE PROTECTION Same as fresh and salt water.

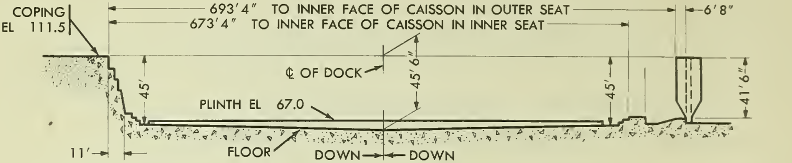
COMPRESSED AIR Two 4-in. mains, total capacity 5,000 cfm at 70 psi.

STEAM Two 3-in. mains, total capacity 7,000 lb per hr at 75 psi.

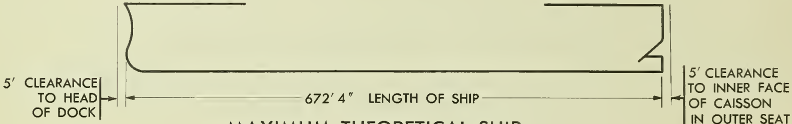
OXYGEN No installation.

SANITARY SEWER INLETS 8-in. main on both sides with 19 inlets on each spaced 20 ft c to c.

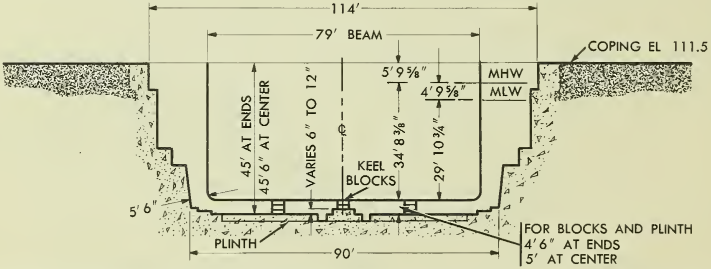
MARE ISLAND, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 3


COPING EL 111.5
693′4″ TO INNER FACE OF CAISSON IN OUTER SEAT
673′4″ TO INNER FACE OF CAISSON IN INNER SEAT
6′8″
℄ OF DOCK
45′6″
45′
45′
41′6″
PLINTH EL 67.0
FLOOR
11′
DOWN
DOWN

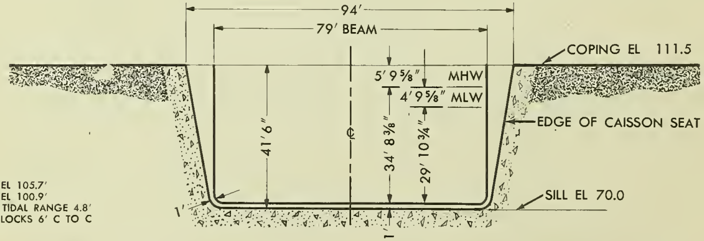
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)


5′ CLEARANCE TO HEAD OF DOCK
672′ 4″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 105.7′
MLW EL 100.9′
MEAN TIDAL RANGE 4.8′
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

MARE ISLAND, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 3

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Timber piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (rectangular box type).

PUMPS Two 54-in., each 75,000 gpm at 16-ft head, 50,000 gpm at 40-ft head. Also used for Drydock No. 4.

METHOD OF FLOODING Flooding through caisson or tunnels.

TIME TO DEWATER 160 min for normal operation.

TIME TO FLOOD 85 min for normal operation.

KEEL BLOCKS 3′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 7 electrically operated: 1 at head of dock—90 fpm at 7,500 lb, 30 fpm at 25,000 lb; 1 each side of entrance—90 fpm at 8,000 lb, 30 fpm at 24,000 lb; 2 each side of dock—90 fpm at 4,000 lb, 30 fpm at 12,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	95′ 0″ with hook at CL
Auxiliary	15 long tons	139′ 0″ with hook at CL
Whip	5 long tons	126′ 0″, 79′ 6″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	1,300
AC, 3-ph	230	2,400
AC, 1-ph	120/240	1,400
DC	125/250	3,000

FRESH WATER Two 6-in. mains, total capacity 2,000 gpm at 60 psi.

SALT WATER Two 8-in. mains, total capacity 3,800 gpm at 60 psi.

FIRE PROTECTION Same as fresh and salt water.

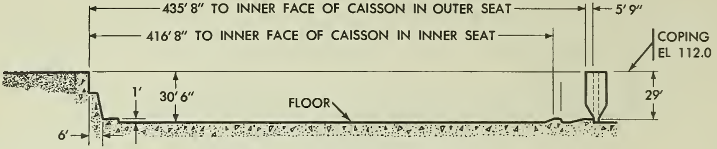
COMPRESSED AIR Two 6-in. mains, total capacity 8,000 cfm at 70 psi.

STEAM Two 4-in. mains, total capacity 8,000 lb per hr at 75 psi.

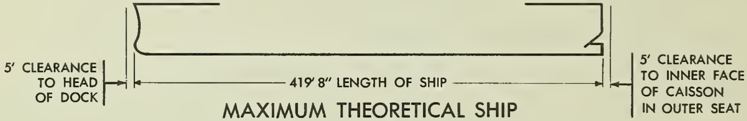
OXYGEN No installation.

SANITARY SEWER INLETS 8-in. main on both sides with 16 inlets on each spaced 36 ft c to c.

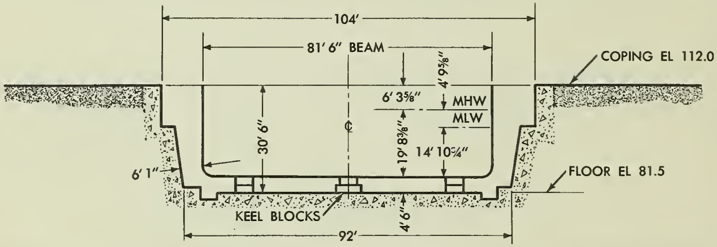
MARE ISLAND, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 4


435′ 8″ TO INNER FACE OF CAISSON IN OUTER SEAT
5′ 9″
416′ 8″ TO INNER FACE OF CAISSON IN INNER SEAT
COPING
EL 112.0
1′
30′ 6″
FLOOR
29′
6′

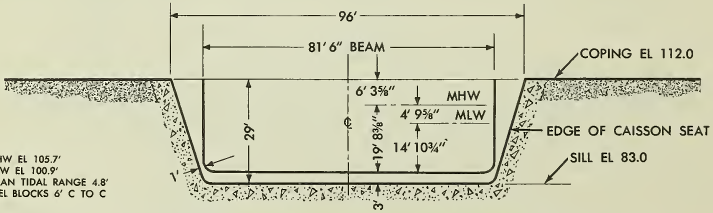
LONGITUDINAL SECTION
(VIEW LOOKING WEST)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 105.7′
MLW EL 100.9′
MEAN TIDAL RANGE 4.8′
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

MARE ISLAND, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 4

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING 2 SS, 2 DD, or 1 C-1 merchant ship.

FOUNDATION Timber piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (rectangular box type).

PUMPS Two 54-in., each 75,000 gpm at 16-ft head, 50,000 gpm at 40-ft head. These pumps located at Drydock No. 3.

METHOD OF FLOODING Flooding through tunnels.

TIME TO DEWATER 75 min for normal operation.

TIME TO FLOOD 45 min for normal operation.

KEEL BLOCKS 3′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 5 electrically operated: 1 at head of dock—30 fpm at 24,000 lb, 90 fpm at 8,000 lb; 1 each side of entrance and 1 each side of dock—30 fpm at 12,000 lb, 90 fpm at 4,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	97′ 0″ with hook at CL
Auxiliary	15 long tons	139′ 0″ with hook at CL
Whip	5 long tons	126′ 0″, 79′ 6″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	800
AC, 3-ph	230	800
AC, 1-ph	120/240	800
DC	125/250	1,200

FRESH WATER Two 4-in. mains, total capacity 750 gpm at 60 psi.

SALT WATER Two 6-in. mains, total capacity 1,700 gpm at 60 psi.

FIRE PROTECTION Same as fresh and salt water.

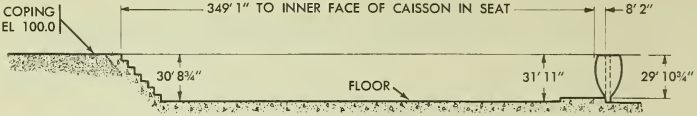
COMPRESSED AIR 6-in. main, 4,500 cfm at 70 psi.

STEAM Two 3-in. mains, total capacity 12,000 lb per hr at 75 psi.

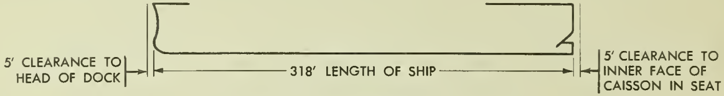
OXYGEN No installation.

SANITARY SEWER INLETS Two 8-in. mains, 30 inlets on each side, 44 in bottom, spacing 36 ft c to c.

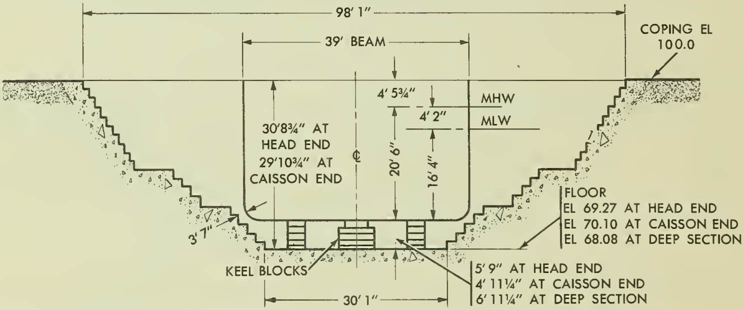
NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 1



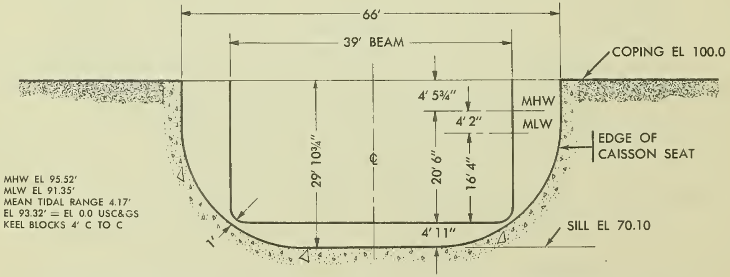
LONGITUDINAL SECTION
(VIEW LOOKING NORTHWEST)


5′ CLEARANCE TO HEAD OF DOCK
318′ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 95.52′
MLW EL 91.35′
MEAN TIDAL RANGE 4.17′
EL 93.32′ = EL 0.0 USC&GS
KEEL BLOCKS 4′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING SS and DD.

FOUNDATION Piles.

CONSTRUCTION MATERIAL Granite.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Two 30-in., total capacity 45,000 gpm.
One 12-in., drainage, total capacity 3,000 gpm.

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER Minimum 80 min.

TIME TO FLOOD Minimum 60 min.

KEEL BLOCKS max 6′ 1″ high, minimum 5′ 9″ high (including 1′ 0″ x 6′ 0″ x 1′ 2″ bearer); 4′ 0″ wide; 1′ 2″ long; spacing 4′ 0″ c to c.

CAPSTANS 1 electrically operated, reversible: at head of dock—30 fpm at 14,000 lb, 60 fpm at 6,000 lb. Also can be operated by hand.
4 hand operated, reversible: 2 each side of dock—each 1,500 lb capacity.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above top of rail*
Main	50 long tons	112′ 1″ with hook at CL
Auxiliary	10 long tons	144′ 2″ with hook at CL
Whip		

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	400
AC, 3-ph	240	800
AC, 3-ph	120	400
DC	115/230	400

FRESH WATER Two 3-in. mains, 1,000 gpm.

SALT WATER 3-in. mains, 1,500 gpm.

FIRE PROTECTION 1,500 gpm at 60 psi.

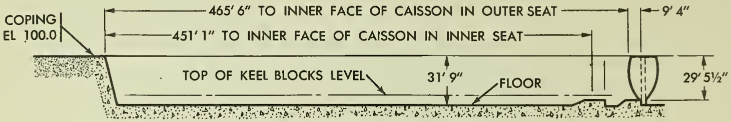
COMPRESSED AIR One 3-in. main east side, 500 cfm at 90 psi.
One 8-in. main west side, 400 cfm at 90 psi.

STEAM 3-in. main, 25,000 lb per hr at 170 psi.

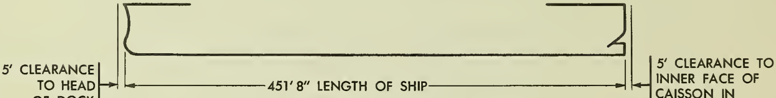
OXYGEN 2-in. main.

SANITARY SEWER INLETS None.

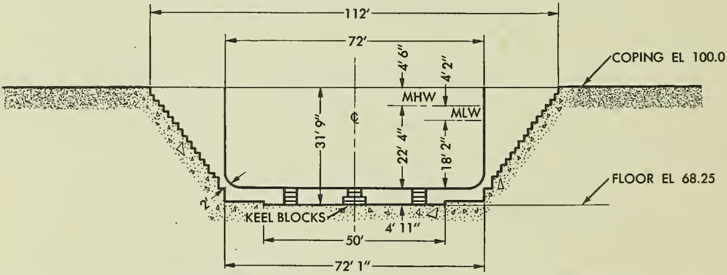
NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 2


COPING
EL 100.0
465′ 6″ TO INNER FACE OF CAISSON IN OUTER SEAT
9′ 4″
451′ 1″ TO INNER FACE OF CAISSON IN INNER SEAT
TOP OF KEEL BLOCKS LEVEL
31′ 9″
FLOOR
29′ 5½″

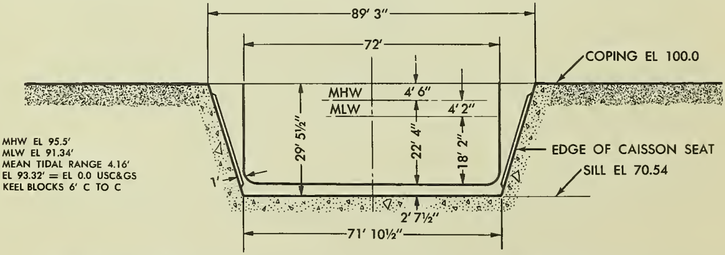
LONGITUDINAL SECTION
(VIEW LOOKING SOUTHWEST)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 95.5′
MLW EL 91.34′
MEAN TIDAL RANGE 4.16′
EL 93.32′ = EL 0.0 USC&GS
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 2

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING SS, DD, and DL.

FOUNDATION Piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Two 48-in., total capacity 150,000 gpm.
Two 16-in. drainage, total capacity 10,000 gpm.
Pumps serve Drydocks Nos. 2 and 3.

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER Minimum 75 min.

TIME TO FLOOD Minimum 90 min.

KEEL BLOCKS 4′ 11″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 1 electrically operated, reversible: at head of dock—30 fpm at 14,000 lb, 12 fpm at 35,000 lb. Also can be operated by hand.
8 hand operated, reversible: 4 each side of dock—each 1,500 lb capacity.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above top of rail*
Main	50 long tons	111′ 3″ with hook at CL
Auxiliary	10 long tons	144′ 2″ with hook at CL
Whip		

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	400
AC, 3-ph	240	1,600
AC, 3-ph	120	800
DC	115/230	1,400

FRESH WATER One 6-in. main east side, 1,000 gpm.
One 4-in. main west side, 1,000 gpm.

SALT WATER One 6-in. main east side, 1,000 gpm.
One 4-in. main west side, 1,500 gpm.

FIRE PROTECTION 15,000 gpm at 60 psi.

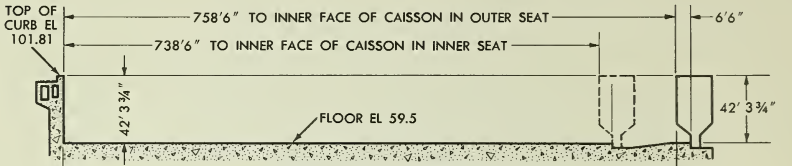
COMPRESSED AIR One 10-in. main east side, 400 cfm at 90 psi.
One 4-in. main west side, 600 cfm at 90 psi.

STEAM 6-in. main, 6,000 lb per hr at 170 psi.

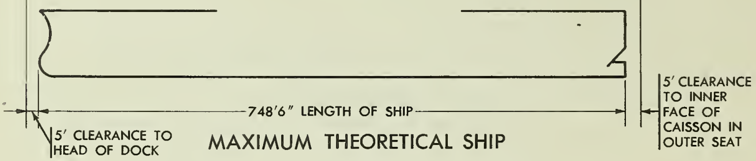
OXYGEN One 5-in. main west side.
One 2½-in. main east side.

SANITARY SEWER INLETS None.

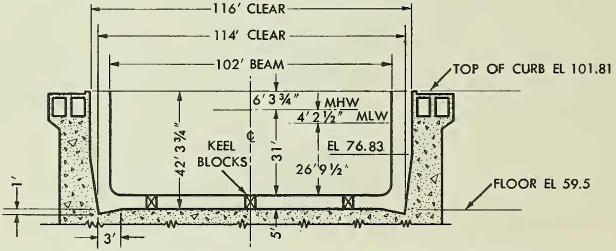
NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 3


TOP OF CURB EL 101.81
758′6″ TO INNER FACE OF CAISSON IN OUTER SEAT
6′6″
738′6″ TO INNER FACE OF CAISSON IN INNER SEAT
42′ 3 ¾″
FLOOR EL 59.5
42′ 3 ¾″

LONGITUDINAL SECTION
(VIEW LOOKING SOUTHWEST)

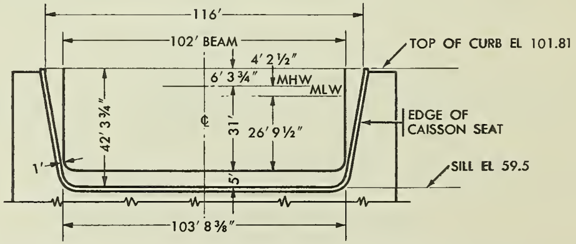

748′6″ LENGTH OF SHIP
5′ CLEARANCE TO HEAD OF DOCK
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP

MHW EL 95.5′
MLW EL 91.3′
ELW EL 87.3′
KEEL BLOCKS 6′ C TO C



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 3

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING CA, double DD, and auxiliaries.

FOUNDATION Wood and steel piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Steel caisson, rectangular type.

PUMPS Three 48-in. mains, 94,000 gpm each at 22-ft head, 52,000 gpm at 45-ft head.
Two 16-in. drainage, 6,000 gpm each at 72-ft head.
Two 4-in. sump, 200 gpm each at 70-ft head.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER 120 minutes, design time, no ship in dock.

TIME TO FLOOD 60 minutes, design time, no ship in dock.

KEEL BLOCKS 3′ 6″ long, 4′ 0″ wide, 5′ 0″ high, spaced 6′ 0″ c to c.
Bilge blocks spaced 12′ 0″ c to c.

CAPSTANS 9 total, all 2-speed, electric, reversible:
3 Type A—24,000 lb at 30 fpm, 8,000 lb at 90 fpm, and 80,000 lb as bollard, located 1 at head of dock and 1 on each side of body near entrance.
6 Type B—12,000 lb at 30 fpm, 6,000 lb at 60 fpm, and 60,000 lb as bollard, located 2 each side of body and 1 each side of entrance.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	104′ 4″ with hook at CL
Auxiliary	10 long tons	138′ 11″ with hook at CL
Whip		

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph (ship service)	480	4,200
AC, 3-ph (ship service)	120	600
AC, 3-ph (power)	120	600
AC, 3-ph (lighting)	120/208	150/250
DC (welding)	70	3,000

FRESH WATER 6-in. main 1,000 gpm in tunnel, 75 psi initial pressure and 30 psi residual.

SALT WATER 8-in. main 3,500 gpm in tunnel, 150 psi residual pressure at farthest outlet.

FIRE PROTECTION 2 pumps, 8-in. discharge, 3,500 gpm per pump at 200 psi initial pressure and 150 psi residual at farthest outlet.

COMPRESSED AIR 6-in. main 3,000 cfm at 100 psi on each side in both tunnels and on dock floor with 6 outlets on each side.

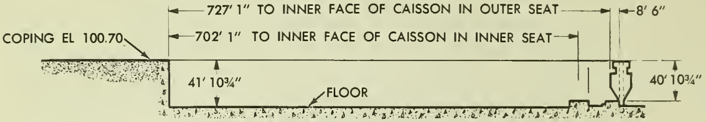
STEAM 6-in. to 4-in. main HPS 7,000 lb per hr at 125 psi in pipe tunnel on each side, or 11,500 lb per hr at 150 psi.

OXYGEN 3½-in. to 2-in. main on east. 5-in. to 2-in. main on west. 5 connections on each side.

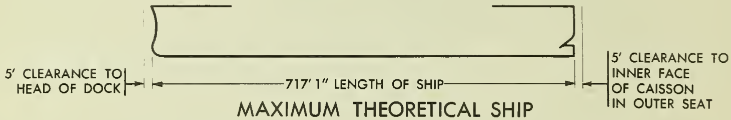
SANITARY SEWER INLETS 10-in. main in floor west of center.
Twelve 8-in. inlets at each side at approximately 48 ft c to c.

ACETYLENE 2½-in. main with 5 connections on each side of dock.

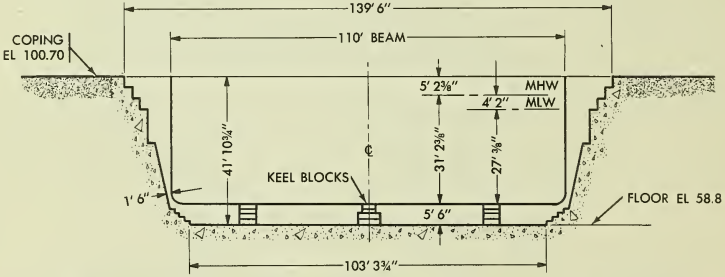
NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 4


727' 1" TO INNER FACE OF CAISSON IN OUTER SEAT
8' 6"
COPING EL 100.70
702' 1" TO INNER FACE OF CAISSON IN INNER SEAT
41' 10¾"
FLOOR
40' 10¾"

LONGITUDINAL SECTION
(VIEW LOOKING NORTHWEST)

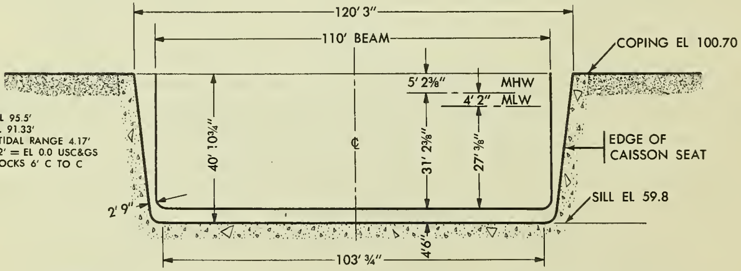

5' CLEARANCE TO HEAD OF DOCK
717' 1" LENGTH OF SHIP
5' CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP

MHW EL 95.5'
MLW EL 91.33'
MEAN TIDAL RANGE 4.17'
EL 93.32' = EL 0.0 USC&GS
KEEL BLOCKS 6' C TO C



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 4

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB up to and including *North Carolina* class.

FOUNDATION Concrete caissons.

CONSTRUCTION MATERIAL Concrete, masonry, and granite.

ENTRANCE CLOSURE Caisson (hydrometer).

PUMPS Three 48-in., total capacity 135,000 gpm.
Two 16-in. drainage, total capacity 12,000 gpm.

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER Minimum 110 min.

TIME TO FLOOD Minimum 60 min.

KEEL BLOCKS 5′ 6″ high, 4′ 0″ wide, 3′ 5″ long, spacing 6′ 0″ c to c.

CAPSTANS 7 electrically operated, reversible: 3 each side of dock and 1 at head of dock—30 fpm at 14,000 lb, 12 fpm at 35,000 lb.
Also can be operated by hand.
4 hand operated, reversible: 2 each side—each 1,500 lb capacity.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above top of rail*
Main	50 long tons	107′ 0″ with hook at CL
Auxiliary	10 long tons	141′ 0″ with hook at CL
Whip		

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	1,200
AC, 3-ph	240	1,400
AC, 3-ph	120	800
DC	115/230	3,500

FRESH WATER 6-in. mains, 5,000 gpm.

SALT WATER 6-in. mains, 5,000 gpm.

FIRE PROTECTION 2,500 gpm at 60 psi.

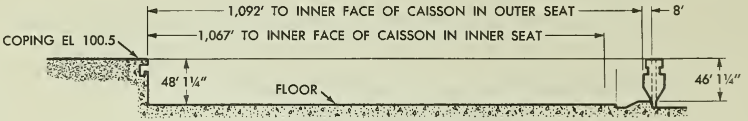
COMPRESSED AIR One 6-in. main north side, 500 cfm at 90 psi.
One 6-in. main south side, 2,500 cfm at 90 psi.

STEAM 4-in. main, 6,000 lb per hr at 170 psi.

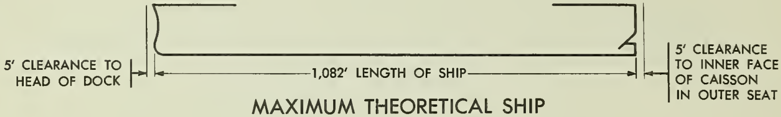
OXYGEN 3-in. mains both sides.

SANITARY SEWER INLETS None.

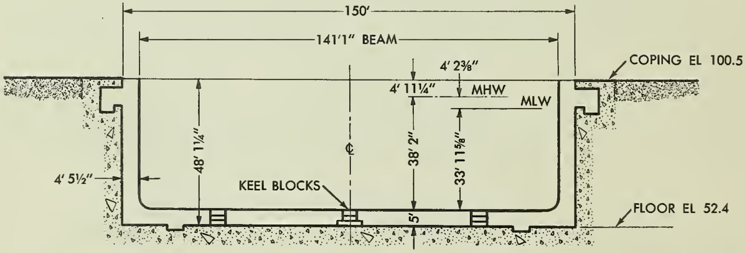
NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 5


1,092′ TO INNER FACE OF CAISSON IN OUTER SEAT
8′
1,067′ TO INNER FACE OF CAISSON IN INNER SEAT
COPING EL 100.5
48′ 1¼″
FLOOR
46′ 1¼″

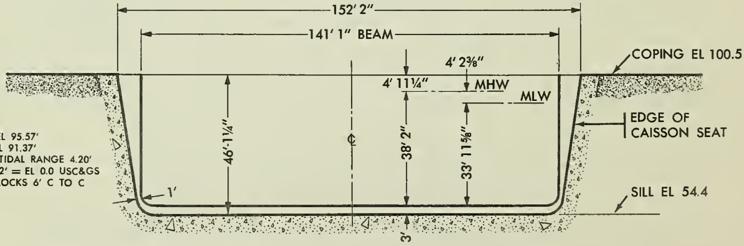
LONGITUDINAL SECTION
(VIEW LOOKING SOUTHWEST)


5′ CLEARANCE TO HEAD OF DOCK
1,082′ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 95.57′
MLW EL 91.37′
MEAN TIDAL RANGE 4.20′
EL 93.32′ = EL 0.0 USC&GS
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 5

FUNCTION OF DRYDOCK Shipbuilding and repair.

SUITABLE IN GENERAL FOR DOCKING BB.

FOUNDATION Steel piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (hydrometer).

PUMPS Four 54-in., total capacity 520,000 gpm.
Two 16-in. drainage, total capacity 20,000 gpm.
Pumps serve Drydocks Nos. 5 and 6.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 150 min.

TIME TO FLOOD Minimum 60 min.

KEEL BLOCKS 5′ 0″ high, 3′ 6″ wide, 4′ 0″ long, spacing 6′ 0″ c to c.

CAPSTANS 14 electrically operated, reversible: 1 at starboard side outboard end and 1 at head of dock—30 fpm at 24,000 lb, 60 fpm at 12,000 lb; 6 each side—30 fpm at 12,000 lb, 60 fpm at 6,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above top of rail*
Main	75 long tons	107′ 3″ with hook at CL
Auxiliary	20 long tons	173′ 0″ with hook at CL
Whip		

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	14,400
AC, 3-ph	240	4,000
AC, 3-ph	120	5,200
DC	125/250	4,000

FRESH WATER 8-in. mains, 15,000 gpm.

SALT WATER 8-in. mains, 3,000 gpm.

FIRE PROTECTION 4,100 gpm at 110 to 125 psi.

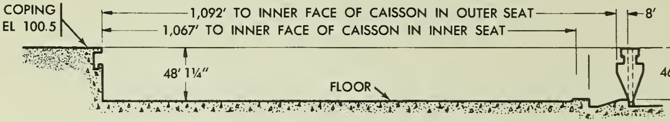
COMPRESSED AIR 6-in. mains, 2,500 cfm at 90 psi.

STEAM 6-in. main, 10,000 lb per hr at 170 psi.

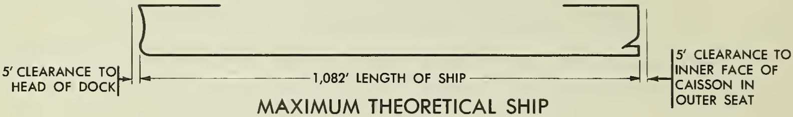
OXYGEN 3½-in. mains both sides.

SANITARY SEWER INLETS 8-in. main on both sides, 27 inlets on each spaced at 36 ft c to c.

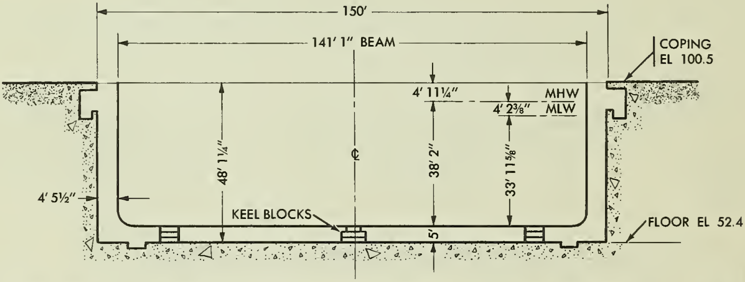
NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 6


COPING
EL 100.5
1,092′ TO INNER FACE OF CAISSON IN OUTER SEAT
8′
1,067′ TO INNER FACE OF CAISSON IN INNER SEAT
48′ 1¼″
FLOOR
46′ 1¼″

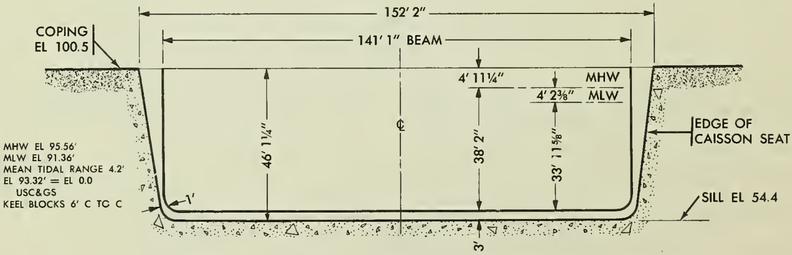
LONGITUDINAL SECTION
(VIEW LOOKING SOUTHWEST)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 95.56′
MLW EL 91.36′
MEAN TIDAL RANGE 4.2′
EL 93.32′ = EL 0.0
USC&GS
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 6

FUNCTION OF DRYDOCK Shipbuilding and repair.

SUITABLE IN GENERAL FOR DOCKING BB.

FOUNDATION Steel piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (hydrometer).

PUMPS Four 54-in., total capacity 520,000 gpm.
Two 16-in. drainage, total capacity 20,000 gpm.
Pumps serve Drydocks Nos. 5 and 6.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 150 min.

TIME TO FLOOD Minimum 60 min.

KEEL BLOCKS 5′ 0″ high, 3′ 6″ wide, 4′ 0″ long, 6′ 0″ c to c.

CAPSTANS 15 electrically operated, reversible: 1 each side of outboard end and 1 at head of dock—30 fpm at 24,000 lb, 60 fpm at 12,000 lb; 6 on each side—30 fpm at 12,000 lb, 60 fpm at 6,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above top of rail*
Main	75 long tons	107′ 3″ with hook at CL
Auxiliary	20 long tons	173′ 0″ with hook at CL
Whip		

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	14,400
AC, 3-ph	240	5,200
AC, 3-ph	120	5,600
DC	125/250	4,000

FRESH WATER 8-in. mains, 15,000 gpm.

SALT WATER 8-in. mains, 3,000 gpm.

FIRE PROTECTION 4,500 gpm at 110 to 115 psi.

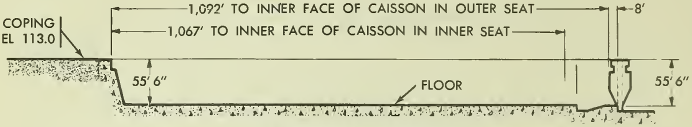
COMPRESSED AIR 6-in. mains, 2,500 cfm at 90 psi.

STEAM 6-in. main, 10,000 lb per hr at 120 psi.

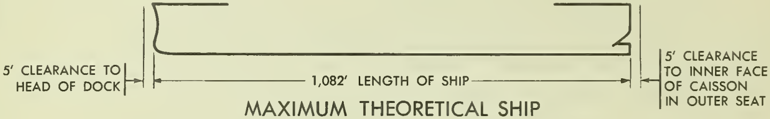
OXYGEN 3½-in. mains both sides.

SANITARY SEWER INLETS 8-in. main on both sides, 26 inlets on each spaced 36 ft c to c.

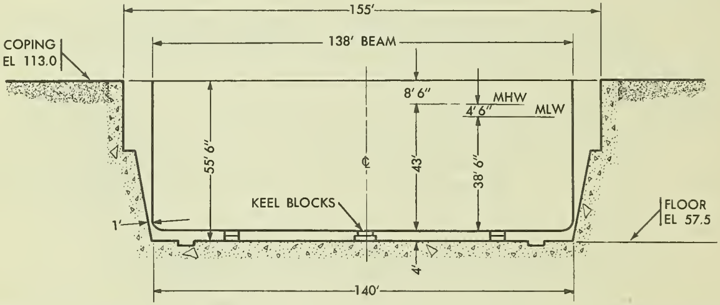
NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 7 (BAYONNE, N. J., ANNEX)


1,092' TO INNER FACE OF CAISSON IN OUTER SEAT
8'
1,067' TO INNER FACE OF CAISSON IN INNER SEAT
COPING
EL 113.0
55' 6"
FLOOR
55' 6"

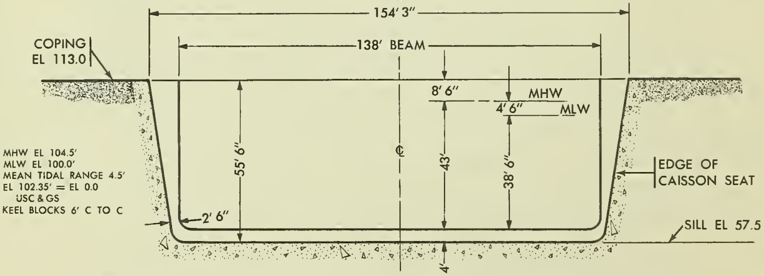
LONGITUDINAL SECTION
(VIEW LOOKING NORTHEAST)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NEW YORK, N. Y., NAVAL SHIPYARD
DRYDOCK NO. 7
(Bayonne, N. J., Annex)

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and CV.

FOUNDATION Tremie concrete on two feet of broken stone, sheet steel piling.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (hydrometer).

PUMPS Four 54-in., total capacity 520,000 gpm.
Two 16-in. drainage, total capacity 19,000 gpm.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 133 min.

TIME TO FLOOD Minimum 102 min.

KEEL BLOCKS 4′ 0″ high, 3′ 6″ wide, 4′ 0″ long, spacing 6′ 0″ c to c.

CAPSTANS 16 electrically operated, reversible: 1 each side at head end and 1 on port side outboard—30 fpm at 24,000 lb, 60 fpm at 12,000 lb; 6 on each side and 1 at head of dock—30 fpm at 12,000 lb, 60 fpm at 6,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	98′ 0″ with hook at CL
Auxiliary	20 long tons	186′ 2″ with hook at CL
Whip		

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	6,000
AC, 3-ph	120/440	6,400
AC, 3-ph	220	2,000
AC, 3-ph	208	2,400
AC, 1-ph	115	4,400
DC	120/240	4,000
DC	120/440	3,200/4,500

FRESH WATER 6-in. mains, 5,000 gpm.

SALT WATER 8-in. mains, 10,000 gpm.

FIRE PROTECTION 4,000 gpm at 110 psi.

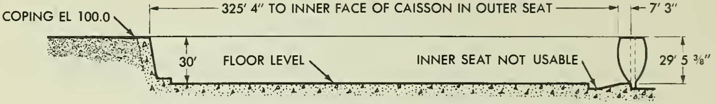
COMPRESSED AIR 6-in. mains, 2,500 cfm at 90 psi.

STEAM 6-in. mains, 10,000 lb per hr at 120 psi.

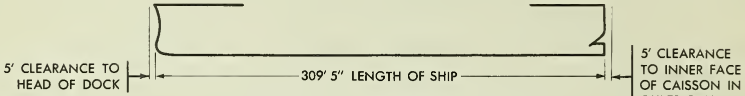
OXYGEN No installation.

SANITARY SEWER INLETS 8-in. main on both sides with 27 inlets on each spaced 36 ft c to c.

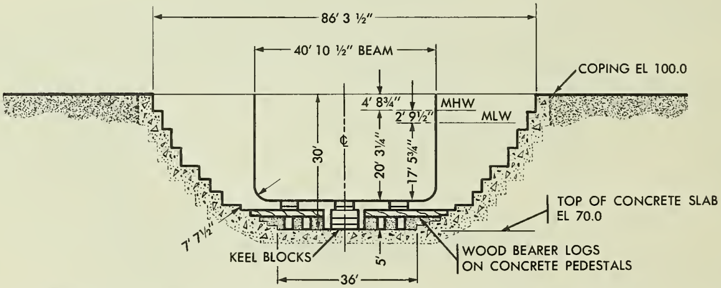
NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 1



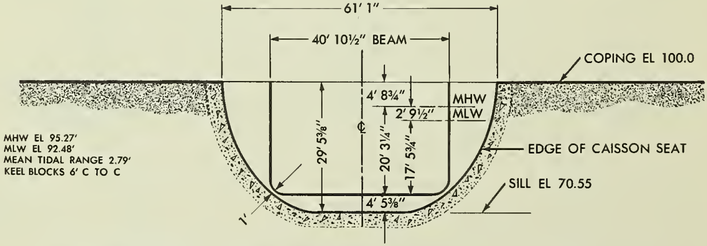
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)


5′ CLEARANCE TO HEAD OF DOCK
309′ 5″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING SS, DE, small auxiliaries, and landing craft.

FOUNDATION Wood piles.

CONSTRUCTION MATERIAL Granite.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Two 42-in., each 35,000 gpm at 20-ft head. (Also used for Drydock No. 2.)

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER Minimum 45 min.

TIME TO FLOOD Minimum 45 min.

KEEL BLOCKS 4′ 0″ wide, 5′ 0″ high, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 3 electrically operated, nonreversible: 1 at head of dock—90 fpm at 10,000 lb, 30 fpm at 30,000 lb; 1 on north side of dock at caisson—14 rpm at no load; 1 on south side of dock at caisson—60 fpm at 6,000 lb, 30 fpm at 12,000 lb. Also can be operated by hand.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	60′ 0″ with hook at CL
Auxiliary	15 long tons	112′ 0″ with hook at CL
Whip	5 long tons	113′ 6″, 72′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	460	400
AC, 3-ph	230	250
AC, 3-ph	120	250
DC	125/250	500

FRESH WATER 4-in. main, 340 gpm.

SALT WATER 4-in. main, 1,230 gpm.

FIRE PROTECTION 1,230 gpm at 56 psi.

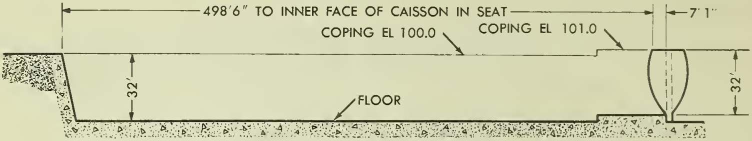
COMPRESSED AIR One 4-in. main north side, 2,850 cfm at 90 psi.
One 4-in. main south side, 2,850 cfm at 90 psi.

STEAM 2-in. main, 1,920 lb per hr at 90 psi.

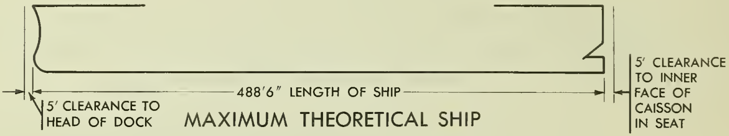
OXYGEN No installation.

SANITARY SEWER INLETS 6-in. main on both sides, 9 inlets on each spaced 25 ft c to c.

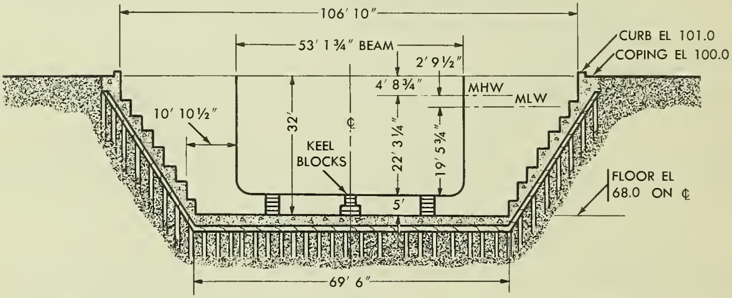
NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 2



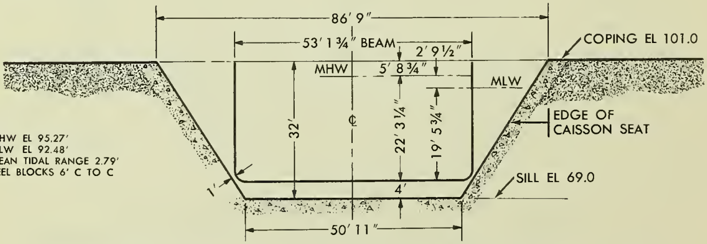
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)


488′6″ LENGTH OF SHIP
5′ CLEARANCE TO HEAD OF DOCK
5′ CLEARANCE TO INNER FACE OF CAISSON IN SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 95.27′
MLW EL 92.48′
MEAN TIDAL RANGE 2.79′
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 2

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING SS, DL, and auxiliaries.

FOUNDATION Wood piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Two 42-in., each 35,000 gpm; and two 22-in., each 4,900 gpm. Pumps located at Drydock No. 1.

METHOD OF FLOODING Flooding through caisson and culverts.

TIME TO DEWATER Minimum 150 min.

TIME TO FLOOD Minimum 75 min.

KEEL BLOCKS 5′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 3 electrically operated, nonreversible: 1 on north side of dock at caisson—14 rpm at no load; 1 on south side of dock at head—14 rpm at no load; 1 on south side of dock at entrance—5 rpm at no load.
Also can be operated by hand.
1 on north side of dock at head. No data available.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	60′ 0″ with hook at CL
Auxiliary	15 long tons	112′ 0″ with hook at CL
Whip	5 long tons	113′ 6″, 72′ 0″ minimum reach

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	460	1,600
AC, 3-ph	230	1,600
AC, 3-ph	120	500
DC	125/250	2,000

FRESH WATER 4-in. mains, 692 gpm.

SALT WATER 6-in. mains, 2,640 gpm.

FIRE PROTECTION 2,640 gpm at 61 psi.

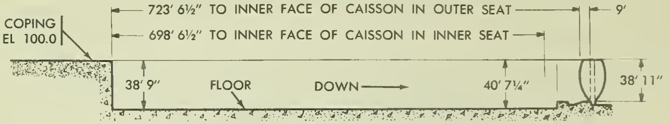
COMPRESSED AIR One 4-in. main north side, 2,850 cfm at 90 psi.
One 4-in. main south side, 2,850 cfm at 90 psi.

STEAM 3-in. main, 2,300 lb per hr, 90 psi.

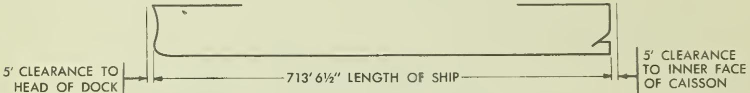
OXYGEN No installation.

SANITARY SEWER INLETS 8-in. and 6-in. mains, 16 inlets along each side at CL spaced 24 ft c to c.

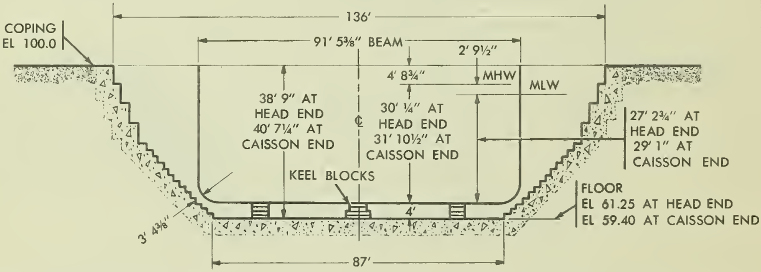
NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 3


COPING
EL 100.0
723′ 6½″ TO INNER FACE OF CAISSON IN OUTER SEAT
9′
698′ 6½″ TO INNER FACE OF CAISSON IN INNER SEAT
38′ 9″
FLOOR
DOWN
40′ 7¼″
38′ 11″

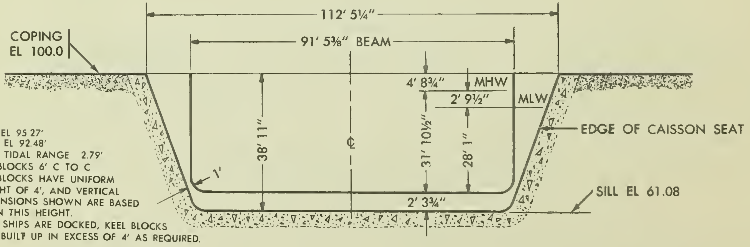
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 95.27′
MLW EL 92.48′
MEAN TIDAL RANGE 2.79′
KEEL BLOCKS 6′ C TO C
KEEL BLOCKS HAVE UNIFORM HEIGHT OF 4′, AND VERTICAL DIMENSIONS SHOWN ARE BASED UPON THIS HEIGHT.
WHEN SHIPS ARE DOCKED, KEEL BLOCKS ARE BUILT UP IN EXCESS OF 4′ AS REQUIRED.

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 3

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers, large auxiliaries, and CVL.

FOUNDATION Wood piles and marl.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Two 54-in., total capacity 152,000 gpm.

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER Minimum 165 min.

TIME TO FLOOD Minimum 45 min.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 9 electrically operated, nonreversible: 3 on north side and 3 on south side of dock—17 fpm at 12,000 lb, 7 fpm at 29,000 lb; 1 at head of dock—30 fpm at 14,000 lb, 12 fpm at 35,000 lb; 2 on north side of dock—no data available.
Also can be operated by hand.
2 electrically operated, nonreversible: 1 on each side of dock near head—105 fpm at 1,000 lb, 90 fpm at 10,000 lb, 30 fpm at 30,000 lb. Not arranged for hand operation.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	60′ 0″ with hook at CL
Auxiliary	15 long tons	112′ 0″ with hook at CL
Whip	5 long tons	113′ 6″, 72′ 0″ minimum reach

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	460	3,200
AC, 3-ph	230	1,200
AC, 3-ph	120	800
DC	125/250	2,500

FRESH WATER 4-in mains, 568 gpm.

SALT WATER 6-in. mains, 2,160 gpm.

FIRE PROTECTION 2,160 gpm at 51 psi.

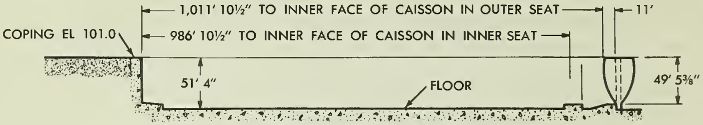
COMPRESSED AIR 4-in. main in gallery on both sides, each 3,045 cfm at 90 psi.
3-in. main on both sides of dock floor, each 1,110 cfm at 90 psi.

STEAM 4-in. main, 6,200 lb per hr at 90 psi.

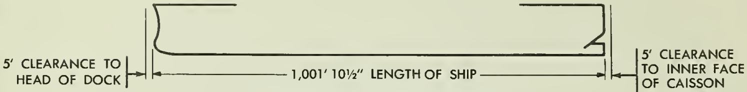
OXYGEN No installation.

SANITARY SEWER INLETS 6-in. main on both sides, 11 inlets on each spaced 50 ft c to c.

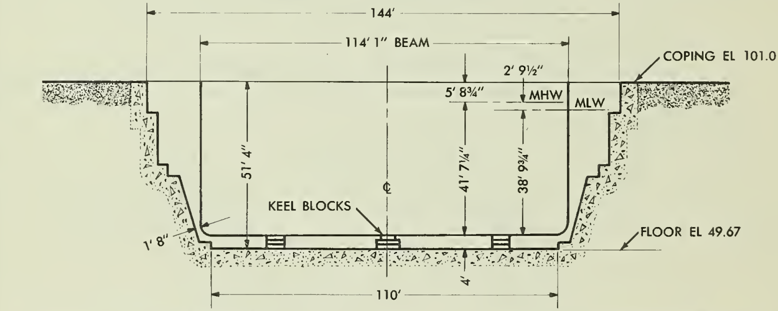
NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 4


1,011′ 10½″ TO INNER FACE OF CAISSON IN OUTER SEAT
11′
COPING EL 101.0
986′ 10½″ TO INNER FACE OF CAISSON IN INNER SEAT
51′ 4″
FLOOR
49′ 5⅜″

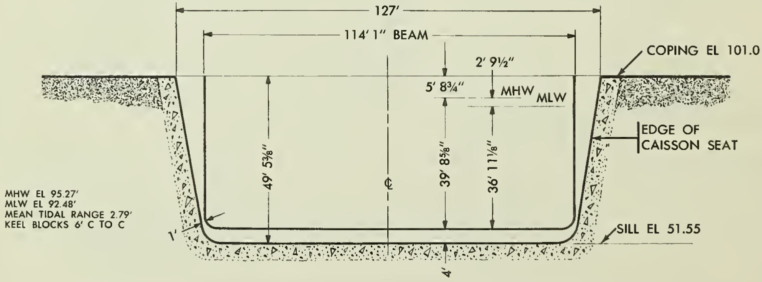
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)


5′ CLEARANCE TO HEAD OF DOCK
1,001′ 10½″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 4

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB, carriers, and large auxiliaries.

FOUNDATION Marl.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Three 54-in., each 112,000 gpm at 20-ft head; and two 15-in., each 5,600 gpm. (Also used for Drydocks Nos. 6 and 7.)

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 135 min.

TIME TO FLOOD Minimum 105 min.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 4 electrically operated, nonreversible: 1 each side of dock at head—17 fpm at 12,000 lb, 7 fpm at 29,000 lb; 1 each side of dock—no data available.
Also can be operated by hand.
8 electrically operated, nonreversible: 1 on Wharf C, 1 at head, 3 on each side of dock—105 fpm at 1,000 lb, 70 fpm at 10,000 lb, 50 fpm at 30,000 lb.
Not arranged for hand operation.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	60′ 0″ with hook at CL
Auxiliary	15 long tons	112′ 0″ with hook at CL
Whip	5 long tons	113′ 6″, 72′ 0″ minimum reach

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	460	3,200
AC, 3-ph	230	1,600
AC, 3-ph	120	800
DC	125/250	2,000

FRESH WATER 6-in. mains, 1,160 gpm.

SALT WATER 6-in. mains, 1,728 gpm.

FIRE PROTECTION 1,728 gpm at 59 psi.

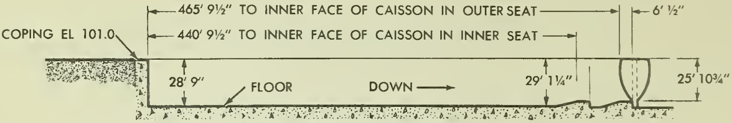
COMPRESSED AIR 6-in. main in gallery on both sides, each 8,000 cfm at 90 psi.
3-in. main on both sides of dock floor, each 1,360 cfm at 90 psi.

STEAM 4-in. main, 7,400 lb per hr at 90 psi.

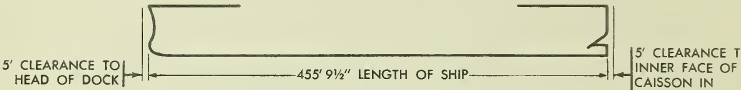
OXYGEN No installation.

SANITARY SEWER INLETS Dock drain opening utilized for sewage.

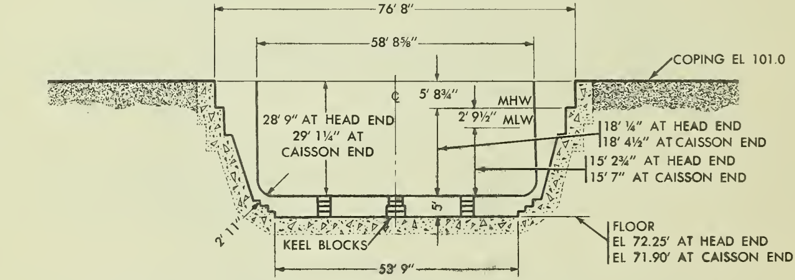
NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 6


465′ 9½″ TO INNER FACE OF CAISSON IN OUTER SEAT
6′ ½″
COPING EL 101.0
440′ 9½″ TO INNER FACE OF CAISSON IN INNER SEAT
28′ 9″
FLOOR
DOWN
29′ 1¼″
25′ 10¾″

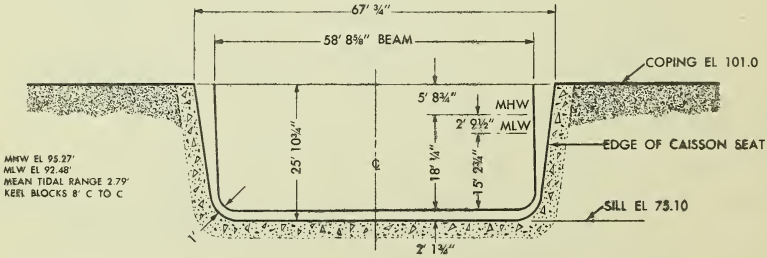
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)


5′ CLEARANCE TO HEAD OF DOCK
455′ 9½″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 6

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING SS, DD, DL, landing craft, and small auxiliaries.

FOUNDATION Marl.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Three 54-in., each 112,000 gpm; and two 15-in., each 5,600 gpm. Pumps are located at Drydock No. 4 and serve Drydocks Nos. 4, 6, and 7.

METHOD OF FLOODING Flooding partly through caisson and partly through culverts.

TIME TO DEWATER Minimum 12 min.

TIME TO FLOOD Minimum 30 min.

KEEL BLOCKS 5′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 8′ 0″ c to c.

CAPSTANS Capstans around Drydocks Nos. 3 and 4 can be used.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	60′ 0″ with hook at CL
Auxiliary	15 long tons	112′ 0″ with hook at CL
Whip	5 long tons	113′ 6″, 72′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	460	400
AC, 3-ph	230	250
AC, 3-ph	120	250
DC	125/250	500

FRESH WATER 6-in. mains, 750 gpm.

SALT WATER 6-in. mains, 1,280 gpm.

FIRE PROTECTION 1,250 gpm at 56 psi.

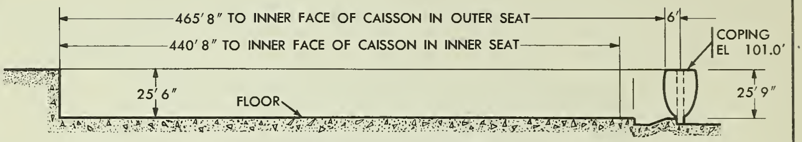
COMPRESSED AIR 3½-in. and 6-in. mains in service pocket, 9,320 cfm at 90 psi.
4-in. main on dock floor, 3,355 cfm at 90 psi.

STEAM 4-in. main, 3,350 lb per hr at 90 psi.

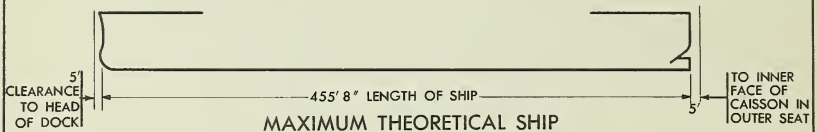
OXYGEN No installation.

SANITARY SEWER INLETS Dock drain opening utilized for sewage.

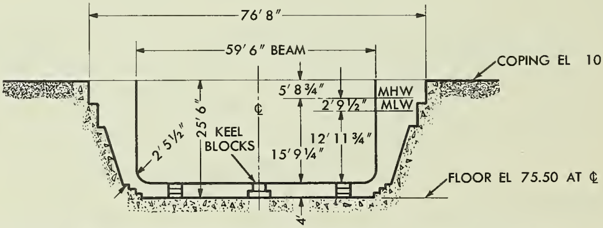
NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 7


465′ 8″ TO INNER FACE OF CAISSON IN OUTER SEAT
6′
440′ 8″ TO INNER FACE OF CAISSON IN INNER SEAT
COPING
EL 101.0′
25′ 6″
FLOOR
25′ 9″

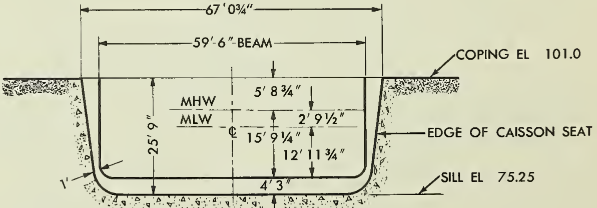
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

MHW EL 95.27
MLW EL 92.48′
MEAN TIDAL RANGE 2.79′
KEEL BLOCKS 8 C TO C

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 7

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING SS, DD, landing craft, and small auxiliaries.

FOUNDATION Marl.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Three 54-in., each 112,000 gpm; and two 15-in., each 5,600 gpm. Pumps are located at Drydock No. 4 and serve Drydocks Nos. 4, 6, and 7.

METHOD OF FLOODING Flooding through caisson and culverts.

TIME TO DEWATER Minimum 10 min.

TIME TO FLOOD Minimum 25 min.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 8′ 0″ c to c.

CAPSTANS 2 electrically operated, nonreversible: 1 at entrance between Drydocks Nos. 6 and 7—10 rpm at no load (can not be hand operated); 1 at head of dock—105 fpm at 1,000 lb, 90 fpm at 10,000 lb, 30 fpm at 30,000 lb (can be hand operated). Capstans around Drydocks Nos. 3 and 4 also can be used.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	60′ 0″ with hook at CL
Auxiliary	15 long tons	112′ 0″ with hook at CL
Whip	5 long tons	113′ 6″, 72′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	460	400
AC, 3-ph	230	1,000
AC, 3-ph	120	500
DC	125/250	500

FRESH WATER 6-in. mains, 750 gpm.

SALT WATER 6-in. mains, 1,285 gpm.

FIRE PROTECTION 1,285 gpm at 57 psi.

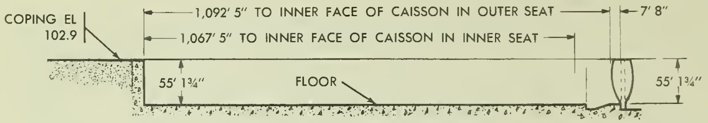
COMPRESSED AIR 6-in. mains, 11,750 cfm at 90 psi.

STEAM 4-in. main, 4,650 lb per hr at 90 psi.

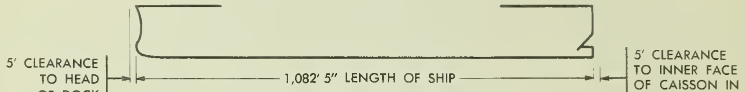
OXYGEN No installation.

SANITARY SEWER INLETS Dock drainage opening utilized for sewage.

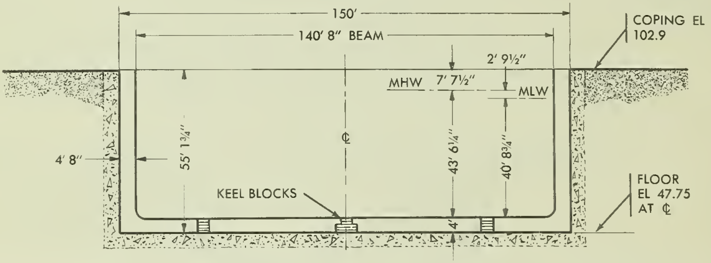
NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 8


COPING EL 102.9
1,092' 5" TO INNER FACE OF CAISSON IN OUTER SEAT
7' 8"
1,067' 5" TO INNER FACE OF CAISSON IN INNER SEAT
55' 1¾"
FLOOR
55' 1¾"

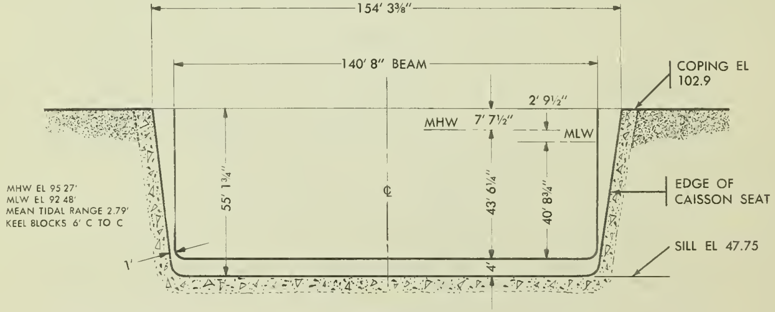
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)


5' CLEARANCE TO HEAD OF DOCK
1,082' 5" LENGTH OF SHIP
5' CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NORFOLK, VA., NAVAL SHIPYARD
DRYDOCK NO. 8

FUNCTION OF DRYDOCK Shipbuilding and repair.

SUITABLE IN GENERAL FOR DOCKING CVA, BB, and multidocking of DD, auxiliaries, and landing craft.

FOUNDATION Steel piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Four 54-in., each 130,000 gpm at 20 ft head; and two 16-in., each 9,500 gpm.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 140 min.

TIME TO FLOOD Minimum 105 min.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 10 electrically operated, nonreversible: 1 each side of dock at head and 1 each side at entrance—60 fpm at 12,000 lb, 30 fpm at 24,000 lb; 3 on each side of dock—60 fpm at 6,000 lb, 30 fpm at 12,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	66.9 long tons	140′ 0″ with hook at CL
Auxiliary	22.3 long tons	171′ 0″ with hook at CL
Whip		

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	460	6,000
AC, 3-ph	230	1,600
AC, 3-ph	120	2,000
DC	125/250	4,200

FRESH WATER 6-in. mains, 925 gpm.

SALT WATER 8-in. mains, 2,040 gpm.

FIRE PROTECTION 2,040 gpm at 83 psi.

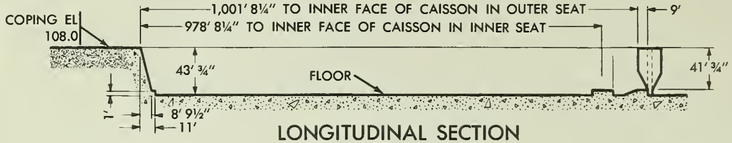
COMPRESSED AIR 8-in. mains, 10,370 cfm at 90 psi.

STEAM 6-in. mains, 20,500 lb per hr at 90 psi.

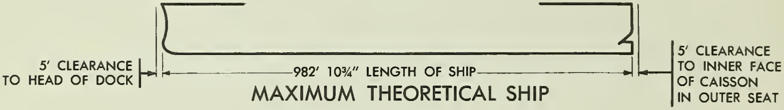
OXYGEN No installation.

SANITARY SEWER INLETS 8-in. main on both sides with 28 inlets on each.

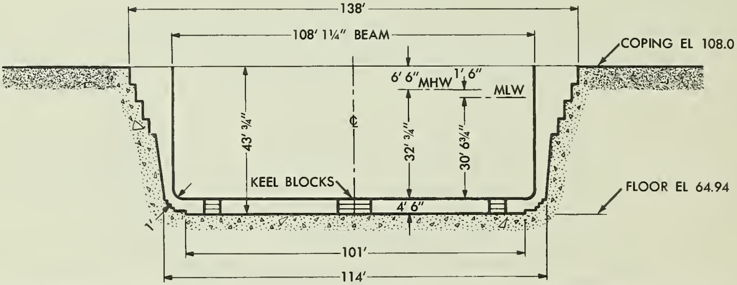
PEARL HARBOR, T. H., NAVAL SHIPYARD
DRYDOCK NO. 1


COPING EL
108.0
1,001' 8¼" TO INNER FACE OF CAISSON IN OUTER SEAT
978' 8¼" TO INNER FACE OF CAISSON IN INNER SEAT
9'
43' ¾"
FLOOR
41' ¾"
1'
8' 9½"
11'

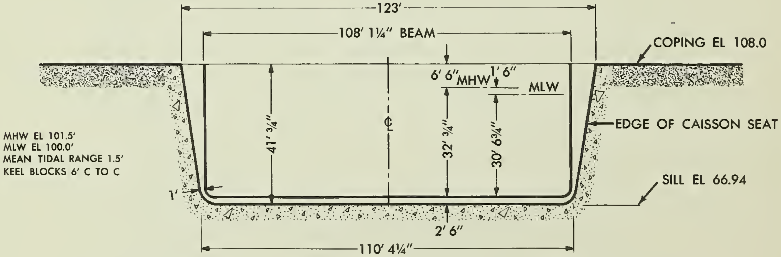
LONGITUDINAL SECTION
(VIEW LOOKING WEST)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PEARL HARBOR, T. H., NAVAL SHIPYARD
DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Wood piles.

CONSTRUCTION MATERIAL Granite, concrete, and steel.

ENTRANCE CLOSURE Caisson (hydrometer).

PUMPS Four 48-in., 66,000 gpm each.

METHOD OF FLOODING Flooding through caisson and side of dock.

TIME TO DEWATER 140 min for Drydock No. 1 pumps only. 110 min when 2 pumps of Drydock No. 2 also are used.

TIME TO FLOOD 60 min.

KEEL BLOCKS 4′ 6″ high, 3′ 6″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 11 electrically operated, reversible: 1 at head of dock, 5 each side—30 fpm at 14,000 lb, 12 fpm at 35,000 lb.
2 electrically operated, nonreversible: 1 each end of caisson—30 fpm at 1,500 lb, 10 fpm at 12,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	110′ 0″ with hook at CL
Auxiliary	15 long tons	143′ 0″ with hook at CL
Whip	5 long tons	149′ 0″, 142′ 0″ max radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	1,200
AC, 3-ph	230	400 (Note 1)
AC, 1-ph	115/230	400 (Note 2)
DC	125/250	800

FRESH WATER 12-in. main port side, 8-in. main starboard side. Total capacity 5,000 gpm at 15 psi.

SALT WATER 12-in. main port side, 8-in. main starboard side. Total capacity 5,840 gpm at 18 psi.

FIRE PROTECTION Same as salt water.

COMPRESSED AIR 4-in. main on each side, total capacity 3,000 cfm at 85 psi.

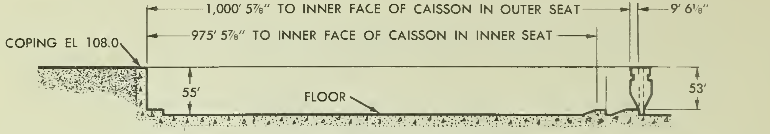
STEAM 4-in. main on starboard side, 10,000 lb per hr at 85 psi.

OXYGEN No installation.

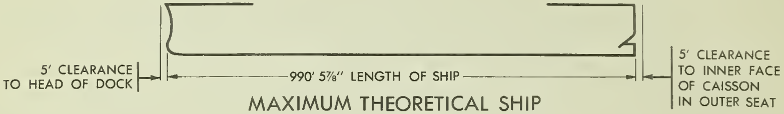
SANITARY SEWER INLETS 6-in. main on both sides, 22 inlets on each spaced 36 ft c to c.

Note 1. Less three times single-phase kva load.
Note 2. Less one-third of 3-ph kva load.

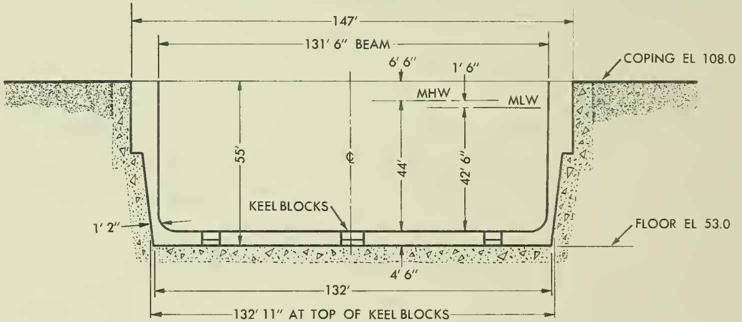
PEARL HARBOR, T. H., NAVAL SHIPYARD
DRYDOCK NO. 2


1,000′ 5⅞″ TO INNER FACE OF CAISSON IN OUTER SEAT
9′ 6⅛″
975′ 5⅞″ TO INNER FACE OF CAISSON IN INNER SEAT
COPING EL 108.0
55′
FLOOR
53′

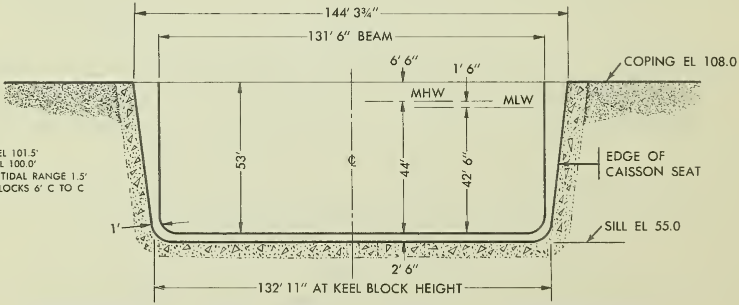
LONGITUDINAL SECTION
(VIEW LOOKING WEST)


5′ CLEARANCE TO HEAD OF DOCK
990′ 5⅞″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 101.5′
MLW EL 100.0′
MEAN TIDAL RANGE 1.5′
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PEARL HARBOR, T. H., NAVAL SHIPYARD
DRYDOCK NO. 2

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Wood piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (hydrometer)—1 regular, 1 spare.

PUMPS Four 54-in., 130,000 gpm each.

METHOD OF FLOODING Flooding through side of dock.

TIME TO DEWATER 150 min for Drydock No. 2 pumps only. 120 min when 2 pumps of Drydock No. 1 also are used.

TIME TO FLOOD 90 min.

KEEL BLOCKS 4′ 6″ high, 3′ 6″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 13 electrically operated, reversible: 1 at head of dock, 1 each side—30 fpm at 80,000 lb, 60 fpm at 24,000 lb; 5 each side of dock—30 fpm at 60,000 lb, 60 fpm at 12,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	110′ 0″ with hook at CL
Auxiliary	15 long tons	143′ 0″ with hook at CL
Whip	5 long tons	149′ 0″, 142′ 0″ max radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	3,200 (Note 3)
AC, 3-ph	230	640 (Note 1)
AC, 1-ph	115/230	640 (Note 2)
DC	125/250	2,600

FRESH WATER 6-in. main each side, total capacity 3,000 gpm at 15 psi.

SALT WATER 8-in. main both sides, 3,768 gpm at 15 psi.

FIRE PROTECTION 14-in. main each side, total capacity 5,400 gpm at 150 psi.

COMPRESSED AIR 6-in. main starboard side, 5,000 cfm at 85 psi.

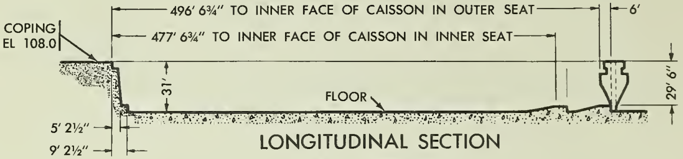
STEAM 6-in. main each side, total capacity 15,000 lb per hr at 85 psi.

OXYGEN No installation.

SANITARY SEWER INLETS 8-in. main on both sides, 24 inlets on each spaced 36 ft c to c.

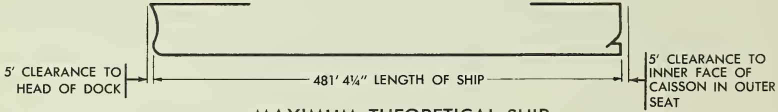
Note 1. Less three times single-phase kva load.
Note 2. Less one-third of 3-ph kva load.
Note 3. Less welding stations.

PEARL HARBOR, T. H., NAVAL SHIPYARD
DRYDOCK NO. 3

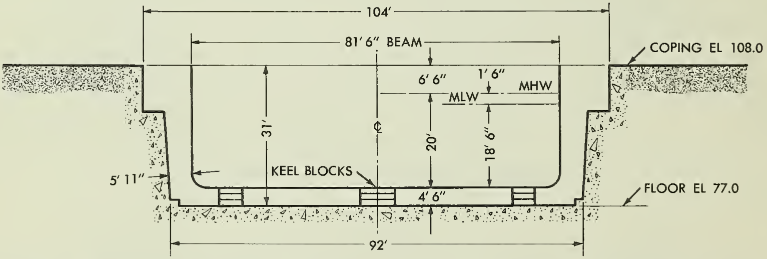

496′ 6¾″ TO INNER FACE OF CAISSON IN OUTER SEAT
6′
477′ 6¾″ TO INNER FACE OF CAISSON IN INNER SEAT
COPING EL 108.0
31′
FLOOR
29′ 6″
5′ 2½″
9′ 2½″

LONGITUDINAL SECTION

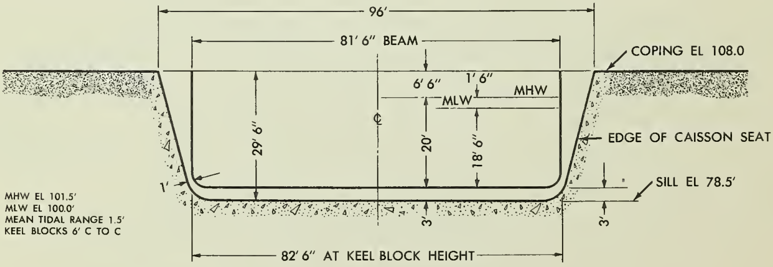
(VIEW LOOKING WEST)


5′ CLEARANCE TO HEAD OF DOCK
481′ 4¼″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 101.5′
MLW EL 100.0′
MEAN TIDAL RANGE 1.5′
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PEARL HARBOR, T. H., NAVAL SHIPYARD
DRYDOCK NO. 3

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING DD, DL, SS, or 1 C-3 merchant ship.

FOUNDATIONS Steel and wood piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (hydrometer)—1 regular, 1 spare.

PUMPS Pumps at Drydocks Nos. 1 and 2 service Drydock No. 3 through 6-ft connecting tunnels.

METHOD OF FLOODING Flooding through side of dock.

TIME TO DEWATER 40 min.

TIME TO FLOOD 45 min.

KEEL BLOCKS 4′ 6″ high, 3′ 6″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 5 electrically operated, reversible: 1 at head of dock—30 fpm at 80,000 lb, 60 fpm at 24,000 lb; 2 each side—30 fpm at 60,000 lb, 60 fpm at 12,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	110′ 0″ with hook at CL
Auxiliary	15 long tons	143′ 0″ with hook at CL
Whip	5 long tons	149′ 0″, 142′ 0″ max radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	640 (Note 3)
AC, 3-ph	230	640 (Note 1)
AC, 1-ph	115/230	640 (Note 2)
DC	125/250	1,040

FRESH WATER 6-in. main each side, total capacity, 3,000 gpm at 15 psi.

SALT WATER 6-in. main each side, total capacity 3,250 gpm at 15 psi.

FIRE PROTECTION Same as salt water.

COMPRESSED AIR 4-in. main each side, total capacity 3,000 cfm at 85 psi.

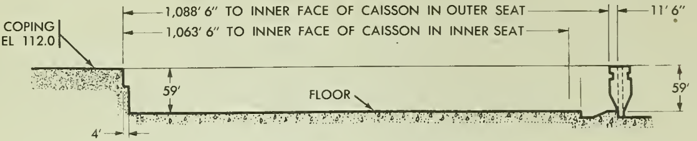
STEAM 4-in. main each side, total capacity 10,000 lb per hr at 85 psi.

OXYGEN No installation.

SANITARY SEWER INLETS 8-in. main on both sides, 22 inlets on each spaced 30 ft c to c.

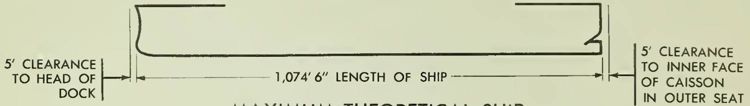
Note 1. Less three times single-phase kva load.
Note 2. Less one-third of 3-ph kva load.
Note 3. Less welding stations.

PEARL HARBOR, T. H., NAVAL SHIPYARD
DRYDOCK NO. 4

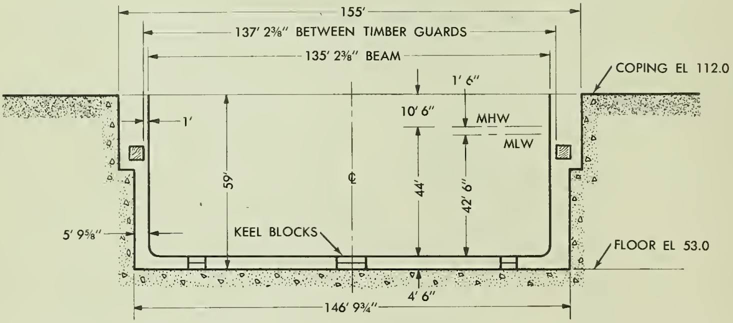

COPING EL 112.0
1,088′ 6″ TO INNER FACE OF CAISSON IN OUTER SEAT
1,063′ 6″ TO INNER FACE OF CAISSON IN INNER SEAT
11′ 6″
59′
FLOOR
59′
4′

LONGITUDINAL SECTION

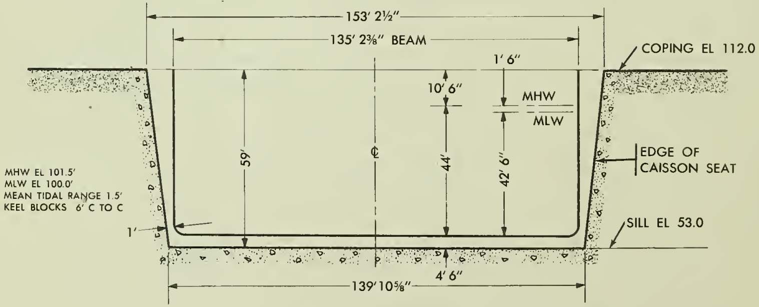
(VIEW LOOKING EAST)


5′ CLEARANCE TO HEAD OF DOCK
1,074′ 6″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PEARL HARBOR, T. H., NAVAL SHIPYARD
DRYDOCK NO. 4

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Wood piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (hydrometer)—1 regular.

PUMPS Four 63-in., 167,000 gpm each.

METHOD OF FLOODING Flooding through dock floor.

TIME TO DEWATER 190 min.

TIME TO FLOOD 120 min.

KEEL BLOCKS 4′ 6″ high, 3′ 6″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 13 electrically operated, reversible: 1 at head of dock—30 fpm at 24,000 lb, 60 fpm at 12,000 lb; 6 each side—30 fpm at 12,000 lb, 60 fpm at 6,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	110′ 0″ with hook at CL
Auxiliary	15 long tons	143′ 0″ with hook at CL
Whip	5 long tons	149′ 0″, 142′ 0″ max radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	2,800
AC, 3-ph	230	390
AC, 1-ph	115/230	1,170
DC	125/250	2,600

FRESH WATER 6-in. main each side, total capacity 4,000 gpm at 15 psi.

SALT WATER 8-in. main each side, total capacity 4,960 gpm at 16 psi.

FIRE PROTECTION Same as salt water.

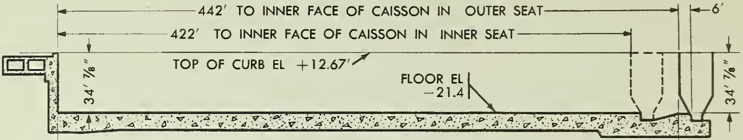
COMPRESSED AIR 6-in. main each side, total capacity 5,000 cfm at 85 psi.

STEAM 6-in. main each side, total capacity 15,000 lb per hr at 85 psi.

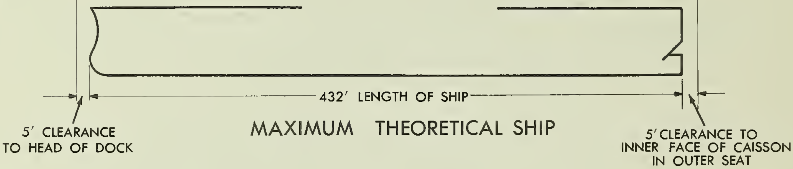
OXYGEN No installation.

SANITARY SEWER INLETS 8-in. main on both sides with 26 inlets on each spaced 36 ft c to c.

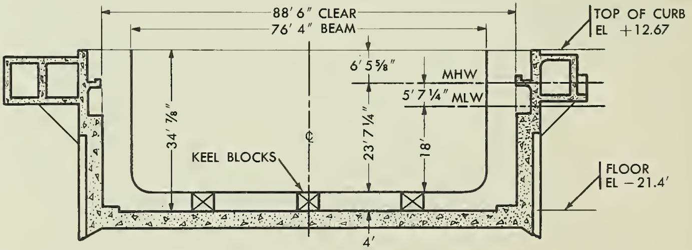
PHILADELPHIA, PA., NAVAL SHIPYARD
DRYDOCK NO. 1


442′ TO INNER FACE OF CAISSON IN OUTER SEAT
6′
422′ TO INNER FACE OF CAISSON IN INNER SEAT
TOP OF CURB EL +12.67′
34′ 7⁄8″
FLOOR EL −21.4
34′ 7⁄8″

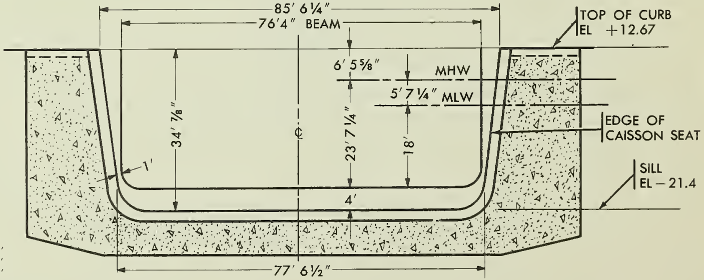
LONGITUDINAL SECTION
(VIEW LOOKING EAST)


432′ LENGTH OF SHIP
5′ CLEARANCE TO HEAD OF DOCK
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL +6.2′
MLW EL +0.6′
ELW EL −4.5′
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PHILADELPHIA, PA., NAVAL SHIPYARD

DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING SS, DL, and DD.

FOUNDATION Wood and steel piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (rectangular type).

PUMPS Two 36-in., 34,000 gpm tdh 45 ft (dewatering).
Two 16-in., 7,500 gpm tdh 55 ft (drainage).

METHOD OF FLOODING Tunnel with inlets through floor.

TIME TO DEWATER 120 min design time, using 2 pumps.

TIME TO FLOOD 60 min design time, using both filling gates.

KEEL BLOCKS 160 composite timber and concrete blocks 4′ 0″ high, 3′ 6″ wide, and 4′ 0″ long; and 60 composite timber and concrete blocks 4′ 0″ high, 1′ 2″ wide, and 4′ 0″ long, located in 3 lines.

CAPSTANS 1 electrically or hand operated, nonreversible: at head of dock—225 fpm at no load, 30 fpm at 14,000 lb, 12 fpm at 30,000 lb.
2 electrically operated, nonreversible: 1 each side of entrance—2-speed motor, 30 fpm at 12,000-lb pull.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	115′ 0″ with hook at CL
Auxiliary		
Whip		

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	440	2,400
AC, 3-ph	230	2,000
AC, 3-ph	115	2,000
DC	125/250	2,000
DC (welding)	70	3,200

FRESH WATER In tunnel, 6-in. on each side and head, 1,000 gpm at 30 psig residual pressure at nozzles. On dock floor, 3-in. on each side, 15 outlets in each at 50 psig. Yard pressure 65 psi.

RIVER WATER In tunnel, 6-in. main, 1,000 gpm at 30 psig residual at outlets. Yard pressure 90 psi.

FIRE PROTECTION 2,000 gpm at 30 psig, yard pressure avg 57.7 psig.
2,640 gpm at 30 psig, yard pressure avg 90 psig.
2,000 gpm at 62 psig, yard pressure avg 90 psig.

COMPRESSED AIR In tunnels, 6-in. main on each side and head, 90 psig initial pressure, 2,040 cfm total at 85 psig in 8 outlets. On dock floor 2½-in. main each side and head. 90 psi initial pressure, 15 double outlets each side.

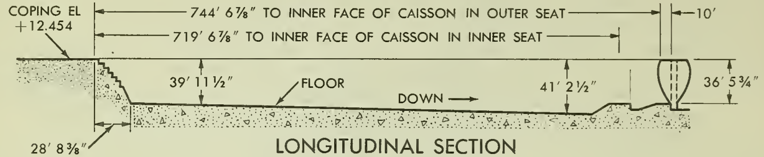
STEAM In tunnel, 6-in. main each side and at head, 8 outlets 28,000 lb/hr total at 140 psig.

OXYGEN None.

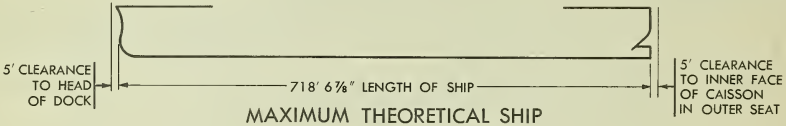
SANITARY SEWER INLETS Two 8-in. lines on floor, 21 4-in. inlets at 20 ft c to c on each.

ACETYLENE None.

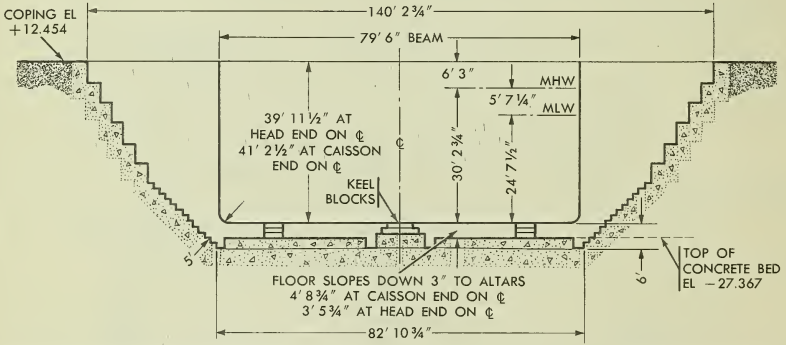
PHILADELPHIA, PA., NAVAL SHIPYARD
DRYDOCK NO. 2


COPING EL
+12.454
744′ 6⅞″ TO INNER FACE OF CAISSON IN OUTER SEAT
10′
719′ 6⅞″ TO INNER FACE OF CAISSON IN INNER SEAT
39′ 11½″
FLOOR
DOWN ⟶
41′ 2½″
36′ 5¾″
28′ 8⅜″

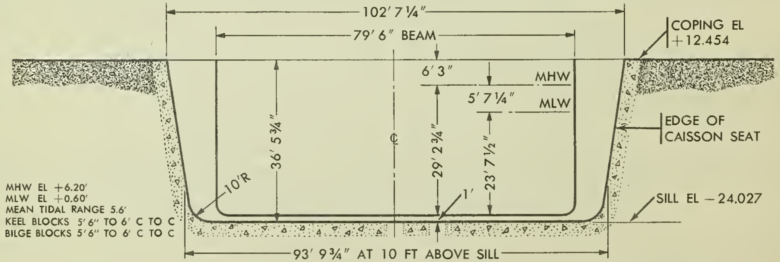
LONGITUDINAL SECTION
(VIEW LOOKING EAST)


5′ CLEARANCE TO HEAD OF DOCK
718′ 6⅞″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP


COPING EL
+12.454
140′ 2¾″
79′ 6″ BEAM
6′ 3″
MHW
5′ 7¼″
MLW
39′ 11½″ AT HEAD END ON ℄
41′ 2½″ AT CAISSON END ON ℄
℄
30′ 2¾″
24′ 7½″
KEEL BLOCKS
5′
6′
TOP OF CONCRETE BED EL −27.367
FLOOR SLOPES DOWN 3″ TO ALTARS
4′ 8¾″ AT CAISSON END ON ℄
3′ 5¾″ AT HEAD END ON ℄
82′ 10¾″

SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL +6.20′
MLW EL +0.60′
MEAN TIDAL RANGE 5.6′
KEEL BLOCKS 5′ 6″ TO 6′ C TO C
BILGE BLOCKS 5′ 6″ TO 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PHILADELPHIA, PA., NAVAL SHIPYARD
DRYDOCK NO. 2

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Wood piles.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Three 45-in., 62,000 gpm each. One 20-in., 7,500 gpm.

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER 165 to 180 min average.

TIME TO FLOOD 90 to 105 min.

KEEL BLOCKS 4′ 8¾″ high, 4′ 0″ wide, 3′ 6″ long, spacing 5′ 6″ to 6′ 0″ c to c.

CAPSTANS 9 electrically operated, nonreversible: 1 at head of dock and 1 each side at entrance —30 fpm at 30,000 lb; 3 each side of dock—30 fpm at 20,000 lb.
1 hand operated, nonreversible, west side near head of dock.

CRANES

Hook	*Max lift with hook at CL*	*Max height above coping*
Main	50 long tons	102′ 0″ with hook at CL
Auxiliary	15 long tons	161′ 0″ with hook at CL
Whip	5 long tons	171′ 0″, 81′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type		*Volts*	*Total amperes*
AC, 3-ph	Note 1	460	1,600
AC, 3-ph		230	1,600
AC, 3-ph		115	1,600
AC, 3-ph		230	225
DC	Note 1	220	300
DC		110	600 (if balanced)

FRESH WATER 6-in. main, 4,280 gpm at 50 psi.

RIVER WATER 6-in. main, 5,250 gpm at 75 psi.

FIRE PROTECTION Same as for salt water.

COMPRESSED AIR 4-in. main both sides, total capacity 900 cfm at 90 psi.

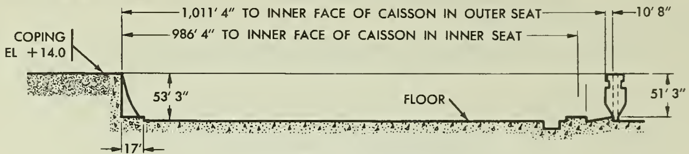
STEAM 6-in. main, 29,450 lb per hr at 125 psi.
3-in. main, 5,100 lb per hr at 125 psi.

OXYGEN 2½-in. main, 320 cfm at 125 psi.

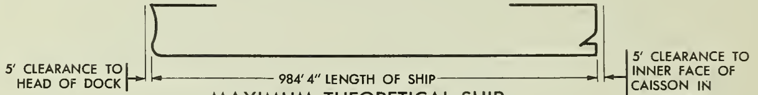
SANITARY SEWER INLETS 6-in. main on both sides, 15 inlets on each spaced 40 ft c to c.

Note 1. Not simultaneously.

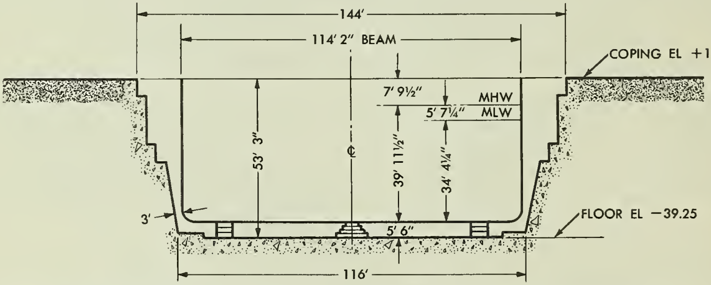
PHILADELPHIA, PA., NAVAL SHIPYARD
DRYDOCK NO. 3


1,011' 4" TO INNER FACE OF CAISSON IN OUTER SEAT
10' 8"
986' 4" TO INNER FACE OF CAISSON IN INNER SEAT
COPING
EL +14.0
53' 3"
FLOOR
51' 3"
17'

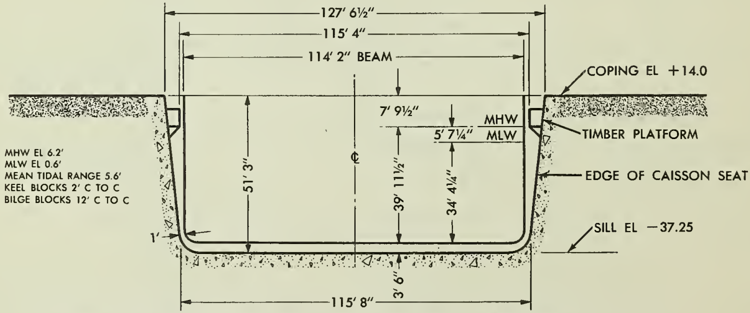
LONGITUDINAL SECTION
(VIEW LOOKING EAST)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PHILADELPHIA, PA., NAVAL SHIPYARD
DRYDOCK NO. 3

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Wood piles and clay.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (hydrometer section).

PUMPS Three 54-in., 105,000 gpm each.
Two 15-in., 15,000 gpm each.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER 165 to 180 min average.

TIME TO FLOOD 60 min average.

KEEL BLOCKS 5′ 6″ high, 3′ 6″ wide, 1′ 2″ long, spacing 2′ 0″ c to c.

CAPSTANS 7 electrically operated, reversible: 1 at head of dock, 2 each side along dock, 1 each side at entrance—30 fpm at 30,000 lb.
10 hand operated, nonreversible, 5 each side of dock.

CRANES

Hook	*Max lift with hook at CL*	*Max height above coping*
Main	50 long tons	102′ 0″ with hook at CL
Auxiliary	15 long tons	160′ 0″ with hook at CL
Whip	5 long tons	192′ 0″, 83″ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type		*Volts*	*Total amperes*
AC, 3-ph	Note 1	460	5,000
AC, 3-ph		115	3,000
AC, 3-ph		230	600
DC	Note 1	220	2,000
DC		110	4,000

FRESH WATER 8-in. main, 6,700 gpm at 50 psi.

RIVER WATER 6-in. main, 5,250 gpm at 75 psi.

FIRE PROTECTION Same as for salt water.

COMPRESSED AIR 6-in. main both sides, total capacity 3,000 cfm at 90 psi.

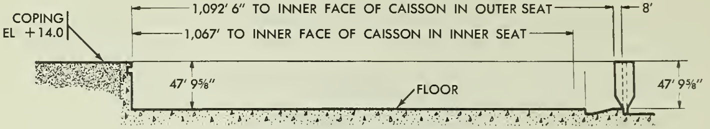
STEAM 6-in. main, 29,450 lb per hr at 125 psi.

OXYGEN 2½-in. main, 320 cfm at 125 psi.

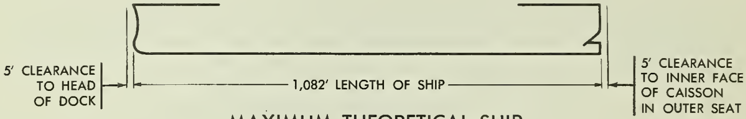
SANITARY SEWER INLETS 6-in. main on both sides, 20 inlets on each spaced 40 ft c to c

Note 1. Not simultaneously.

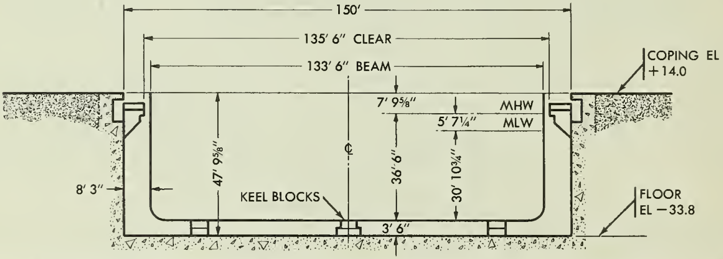
PHILADELPHIA, PA., NAVAL SHIPYARD
DRYDOCK NO. 4


COPING EL +14.0
1,092′ 6″ TO INNER FACE OF CAISSON IN OUTER SEAT
8′
1,067′ TO INNER FACE OF CAISSON IN INNER SEAT
47′ 9⅝″
FLOOR
47′ 9⅝″

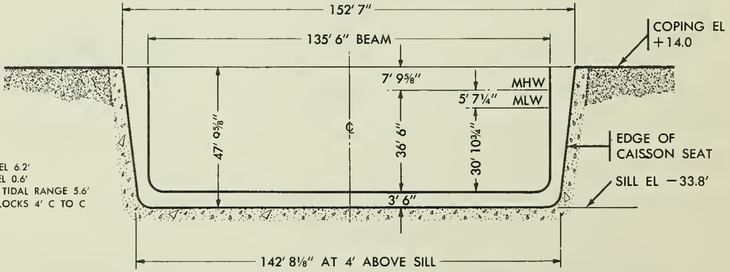
LONGITUDINAL SECTION
(VIEW LOOKING EAST)


5′ CLEARANCE TO HEAD OF DOCK
1,082′ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 6.2′
MLW EL 0.6′
MEAN TIDAL RANGE 5.6′
KEEL BLOCKS 4′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PHILADELPHIA, PA., NAVAL SHIPYARD

DRYDOCK NO. 4

FUNCTION OF DRYDOCK Shipbuilding or repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Steel piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (box section).

PUMPS Three 54-in., 130,000 gpm each.
Two 15-in., 15,000 gpm each.
These 5 pumps serve Drydocks Nos. 4 and 5.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER 180 min average.

TIME TO FLOOD 90 min average.

KEEL BLOCKS 3′ 6″ high, 4′ 0″ wide, 3′ 6″ long, spacing 4′ 0″ c to c.

CAPSTANS 9 electrically operated, reversible: 1 each side at entrance—30 fpm at 24,000 lb, 60 fpm at 20,000 lb; 1 on east side at caisson and 1 at head—30 fpm at 24,000 lb, 60 fpm at 12,000 lb; 2 each side along body—30 fpm at 12,000 lb, 60 fpm at 6,000 lb; 1 on west side at caisson—30 fpm at 24,000 lb, 90 fpm at 8,000 lb.

CRANES

Hook	*Max lift with hook at CL*	*Max height above coping*
Main	75 long tons	102′ 0″ with hook at CL
Auxiliary	50 long tons	133′ 0″ with hook at CL
Whip		

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	460	7,000
AC, 3-ph	115	4,000
DC } Note 1	220	4,000
DC } Note 1	110	400 (if balanced)

FRESH WATER 6-in. main, 4,280 gpm at 50 psi.

RIVER WATER 8-in. main, 8,220 gpm at 75 psi.

FIRE PROTECTION Same as for salt water.

COMPRESSED AIR 6-in. main both sides, total capacity 3,000 cfm at 90 psi.

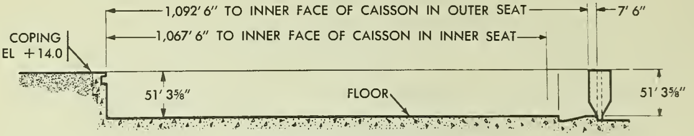
STEAM 6-in. main, 29,450 lb per hr at 125 psi.

OXYGEN 2-in. main, 200 cfm at 125 psi. 3-in. main, 560 cfm at 125 psi.

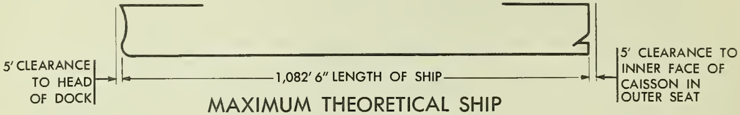
SANITARY SEWER INLETS 8-in. main on both sides, 29 inlets on each spaced 35 ft c to c.

Note 1. Not simultaneously.

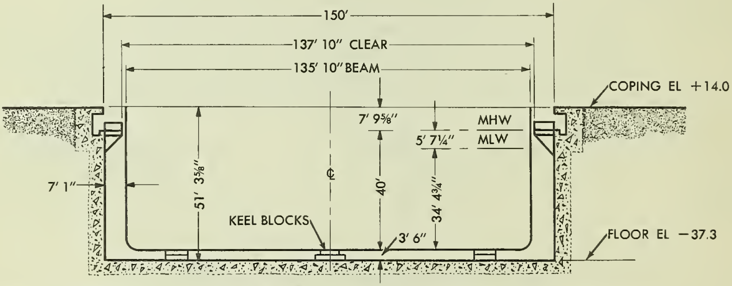
PHILADELPHIA, PA., NAVAL SHIPYARD
DRYDOCK NO. 5


1,092′ 6″ TO INNER FACE OF CAISSON IN OUTER SEAT
7′ 6″
1,067′ 6″ TO INNER FACE OF CAISSON IN INNER SEAT
COPING EL +14.0
51′ 3⅝″
FLOOR
51′ 3⅝″

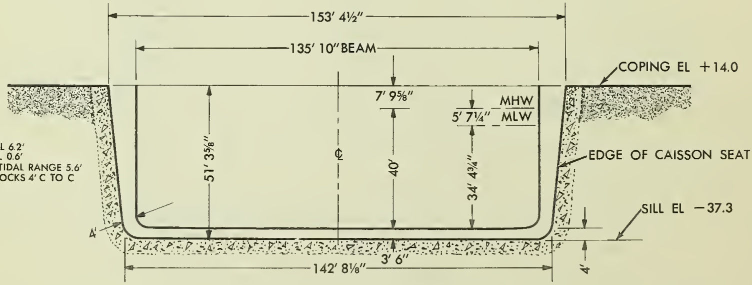
LONGITUDINAL SECTION
(VIEW LOOKING EAST)


5′ CLEARANCE TO HEAD OF DOCK
1,082′ 6″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 6.2′
MLW EL 0.6′
MEAN TIDAL RANGE 5.6′
KEEL BLOCKS 4′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PHILADELPHIA, PA., NAVAL SHIPYARD

DRYDOCK NO. 5

FUNCTION OF DRYDOCK Shipbuilding and repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Steel piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (box section).

PUMPS Three 54-in., 130,000 gpm each.
Two 15-in., 15,000 gpm each.
These pumps serve Drydocks Nos. 4 and 5.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER 210 min average.

TIME TO FLOOD 120 min average.

KEEL BLOCKS 3′ 6″ high, 4′ 0″ wide, 3′ 6″ long, spacing 4′ 0″ c to c.

CAPSTANS 9 electrically operated, reversible: 1 each side at entrance—30 fpm at 24,000 lb, 90 fpm at 8,000 lb; 1 each side at caisson and 1 at head—30 fpm at 24,000 lb, 60 fpm at 12,000 lb; 2 each side along body—30 fpm at 12,000 lb, 60 fpm at 6,000 lb.

CRANES

Hook	*Max lift with hook at CL*	*Max height above coping*
Main	75 long tons	102′ 0″ with hook at CL
Auxiliary	50 long tons	133′ 0″ with hook at CL
Whip		

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	460	7,000
AC, 3-ph	115	4,000
DC Note 1	220	4,000
DC Note 1	110	400 (if balanced)

FRESH WATER 6-in. main, 4,280 gpm at 50 psi.

RIVER WATER 8-in. main, 8,220 gpm at 75 psi.

FIRE PROTECTION Same as for salt water.

COMPRESSED AIR 6-in. main both sides, total capacity 3,000 cfm at 90 psi.

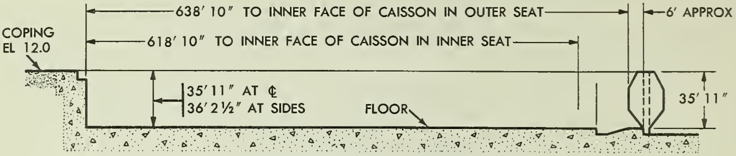
STEAM 6-in. main, 29,450 lb per hr at 125 psi.

OXYGEN 2-in. main, 200 cfm at 125 psi.

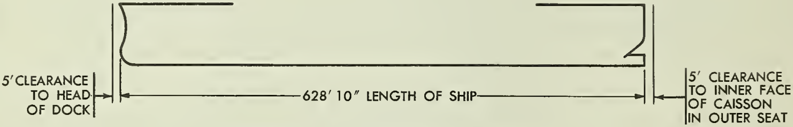
SANITARY SEWER INLETS 8-in. main on both sides, 29 inlets on each spaced 35 ft c to c.

Note 1. Not simultaneously.

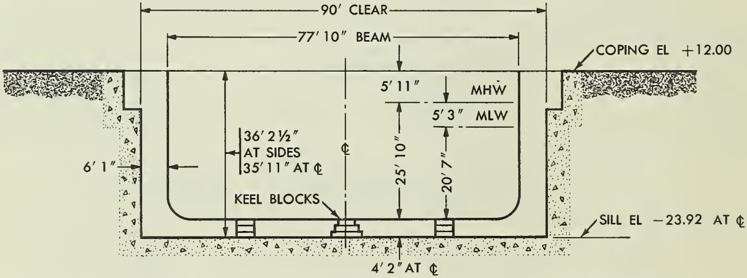
PHILADELPHIA, PA., NAVAL SHIPYARD
DRYDOCK—CRAMP'S SHIPYARD


638′ 10″ TO INNER FACE OF CAISSON IN OUTER SEAT
6′ APPROX
618′ 10″ TO INNER FACE OF CAISSON IN INNER SEAT
COPING EL 12.0
35′ 11″ AT ℄
36′ 2½″ AT SIDES
FLOOR
35′ 11″

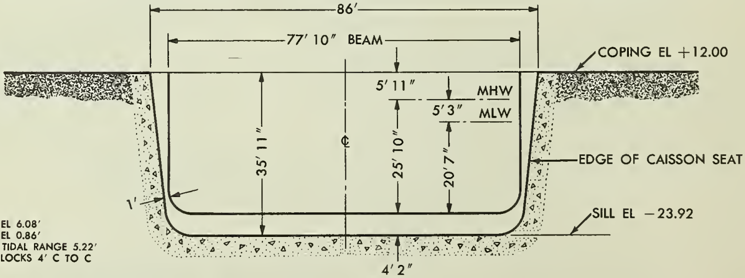
LONGITUDINAL SECTION
(VIEW LOOKING EAST)


5′ CLEARANCE TO HEAD OF DOCK
628′ 10″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 6.08′
MLW EL 0.86′
MEAN TIDAL RANGE 5.22′
KEEL BLOCKS 4′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PHILADELPHIA, PA., NAVAL SHIPYARD
DRYDOCK — CRAMP'S SHIPYARD

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and C-3 merchant ships.

FOUNDATION Rock with relief pipes.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (fin-keel type).

PUMPS Two 40-in., total capacity 141,800 gpm.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 100 min.

TIME TO FLOOD Minimum 45 min.

KEEL BLOCKS 4′ 2″ high, 4′ 0″ wide, 1′ 2″ long, spacing 4′ 0″ c to c.

CAPSTANS 5 electrically operated, reversible: 1 at head of dock and 2 on each side—30 fpm at 12,000 lb, 60 fpm at 6,000 lb.
8 hand operated, 4 per side, spacing approx 120 ft c to c.

CRANES

Hook	*Max lift with hook at CL*	*Max height above coping*
Main	18 tons	95′ 0″ with hook at CL
Auxiliary		
Whip	5 tons	136′ 0″ at 32′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes* floodlights
AC, 3-ph	440	400
AC, 1-ph	115/230	400
DC	110/220	600

FRESH WATER 6-in. main, 3,000 gpm.

RIVER WATER

FIRE PROTECTION 3,000 gpm at 120 psi (river water).

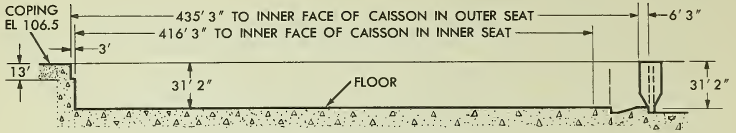
COMPRESSED AIR 6-in. main both sides, each 15,000 cfm at 100 psi.

STEAM 6-in. main, 24,000 lb per hr at 100 psi.

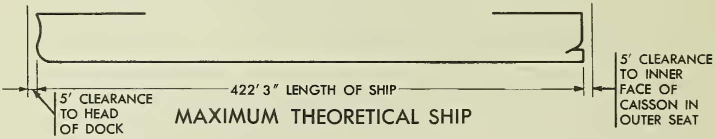
OXYGEN No installation.

SANITARY SEWER INLETS None.

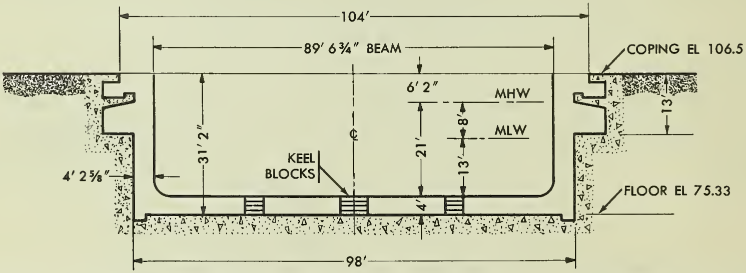
PORTSMOUTH, N. H., NAVAL SHIPYARD
DRYDOCK NO. 1


COPING EL 106.5
435′ 3″ TO INNER FACE OF CAISSON IN OUTER SEAT
6′ 3″
416′ 3″ TO INNER FACE OF CAISSON IN INNER SEAT
3′
13′
31′ 2″
FLOOR
31′ 2″

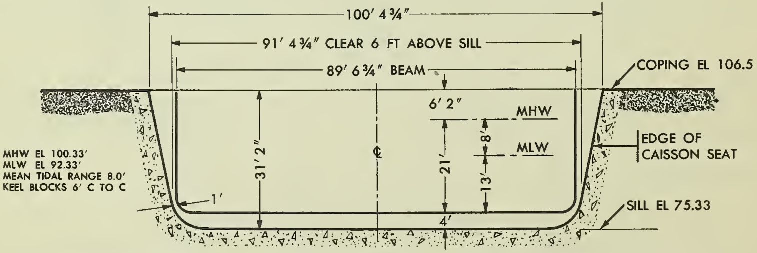
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)


422′ 3″ LENGTH OF SHIP
5′ CLEARANCE TO HEAD OF DOCK
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PORTSMOUTH, N. H., NAVAL SHIPYARD
DRYDOCK NO. 1

FUNCTION OF DRYDOCK Shipbuilding and repair.

SUITABLE IN GENERAL FOR DOCKING 2 SS, 2 DD, 2 DL, or C-1 merchant ship.

FOUNDATION Rock and steel piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (box type).

PUMPS Two 48-in., total capacity 146,000 gpm. Two 16-in., total capacity 14,000 gpm.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER 75 min.

TIME TO FLOOD Minimum 75 min (normal flooding is done over a longer period to prevent upsetting blocks and gear).

KEEL BLOCKS 4′ 0″ high, width varies 11″ to 48″, length 3′ 6″, spacing 6′ 0″ c to c.

CAPSTANS 1 at head of dock—24,000 lb at 30 fpm, 8,000 lb at 90 fpm.
2 each side of dock, 1 on quay wall east end of Berth No. 11—12,000 lb at 30 fpm, 4,000 lb at 90 fpm. All capstans are electrically operated and reversible.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	25 long tons	55′ 0″ with hook at CL
Auxiliary		
Whip	5 long tons	120′ 0″, 52′ 0″ minimum reach

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 4-pole	460	2,400
AC, 3-ph	460	60
AC, 2-pole	120	800
DC	120/250	7,200
DC	125	1,200
DC, battery charging		12,000
DC, welding		6,000

FRESH WATER 4-in. main, three 2-in. outlets, 70 gpm each.

SALT WATER 6-in. main, 125 gpm.

FIRE PROTECTION 250 gpm at 75 psi.

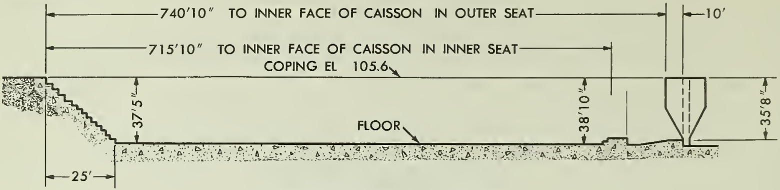
COMPRESSED AIR 3-in. mains, 160 cfm at 100 psi, six 2-in. connections.

STEAM 3-in. mains, 500 lb per hr, 100 psi, two 1½-in. outlets on each side.

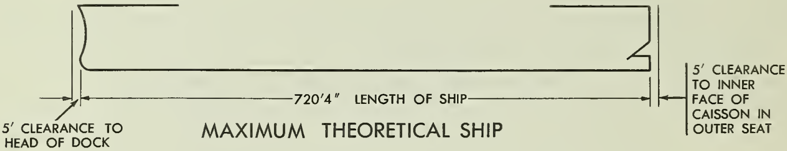
OXYGEN 2-in. distribution line, 6 double outlets.

SANITARY SEWER INLETS 8-in. main on both sides, 20 inlets on each spaced 36 ft c to c.

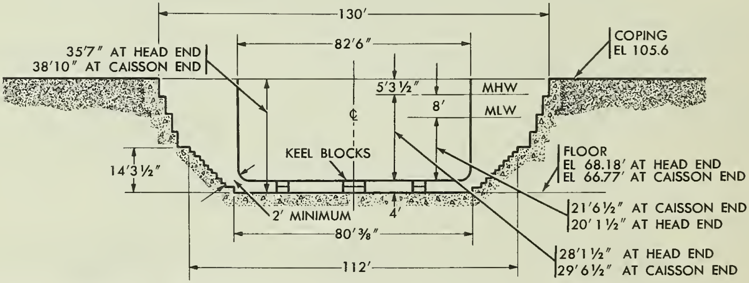
PORTSMOUTH, N. H., NAVAL SHIPYARD
DRYDOCK NO. 2


740'10" TO INNER FACE OF CAISSON IN OUTER SEAT
10'
715'10" TO INNER FACE OF CAISSON IN INNER SEAT
COPING EL 105.6
37'5"
FLOOR
38'10"
35'8"
25'

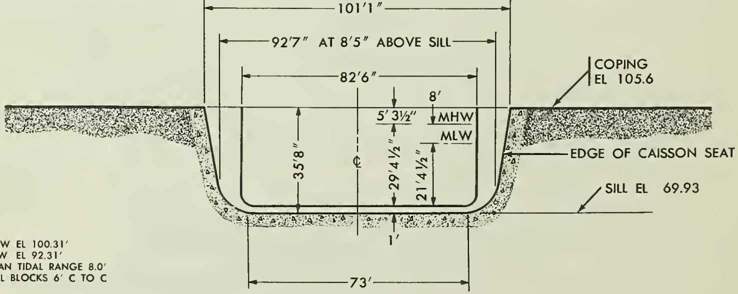
LONGITUDINAL SECTION
(VIEW LOOKING SOUTHEAST)


720'4" LENGTH OF SHIP
5' CLEARANCE TO HEAD OF DOCK
5' CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 100.31'
MLW EL 92.31'
MEAN TIDAL RANGE 8.0'
KEEL BLOCKS 6' C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PORTSMOUTH, N. H., NAVAL SHIPYARD
DRYDOCK NO. 2

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Rock.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (box type for regular use; ship section is now the spare).

PUMPS Three 48-in., total capacity 204,000 gpm.

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER 150 min.

TIME TO FLOOD Minimum 75 min (normal flooding is done over a longer period to prevent upsetting blocks and gear).

KEEL BLOCKS 4′ 0″ high, width varies 11″ to 48″, length 3′ 6″, spacing 6′ 0″ c to c.

CAPSTANS 11 electrically operated, nonreversible: 4 each side of dock—6 fpm at 24,000 lb; 1 each side of dock at head—20 fpm at 24,000 lb; 1 on quay wall at corner of Berths Nos. 4 and 5—20 fpm at 24,000 lb, 60 fpm at 8,000 lb.

WINCHES 3 rathead winches: 1 at head and 1 each side at caisson end—15 fpm at 20,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	40 long tons	50′ 0″ with hook at CL
Auxiliary	15 long tons	50′ 0″ with hook at CL
Whip	5 long tons	125′ 0″, 65′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	460	1,800
AC	125/216	200
AC	120/208	200
DC, battery charging	120/250	1,400
DC	120/250	1,600

FRESH WATER 4-in. main west side, 500 gpm at 55 psi, four 2-in. connections.

SALT WATER

FIRE PROTECTION 4 hydrants.

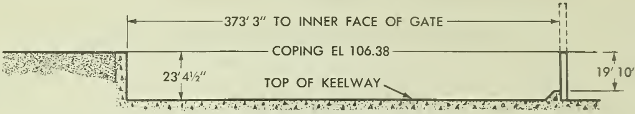
COMPRESSED AIR 4-in. main west side and 6-in. main east side with total of five 100-psi connections—one 1-in., one 1½-in. and three 2-in.

STEAM 4-in. main, 5,000 lb per hr, with total of 4 connections—two 1½-in. at 125 psi and two 2-in. at 125 psi.

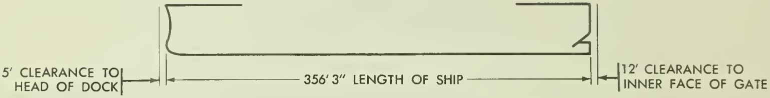
OXYGEN Contract drawings made.

SANITARY SEWER INLETS

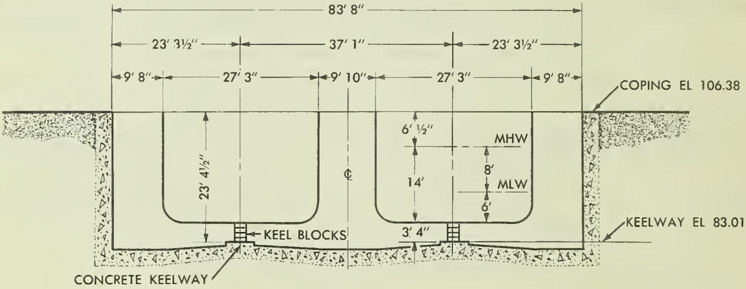
PORTSMOUTH, N. H., NAVAL SHIPYARD
DRYDOCK NO. 3



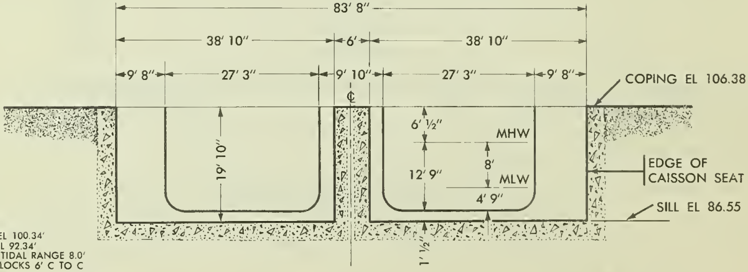
LONGITUDINAL SECTION
(VIEW LOOKING SOUTH)


5' CLEARANCE TO HEAD OF DOCK
356' 3" LENGTH OF SHIP
12' CLEARANCE TO INNER FACE OF GATE

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 100.34'
MLW EL 92.34'
MEAN TIDAL RANGE 8.0'
KEEL BLOCKS 6' C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PORTSMOUTH, N. H., NAVAL SHIPYARD
DRYDOCK NO. 3

FUNCTION OF DRYDOCK Shipbuilding.

SUITABLE IN GENERAL FOR DOCKING SS.

FOUNDATION Steel sheet piling cells for walls, wood piles under keelways, fill under floor.

CONSTRUCTION MATERIAL Concrete and steel.

ENTRANCE CLOSURE Vertical lift gates.

PUMPS Two 18-in., total capacity 14,000 gpm.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER 300 min.

TIME TO FLOOD Minimum 300 min (normal flooding is done over a longer period to prevent upsetting blocks and gear).

KEEL BLOCKS 3′ 4″ high, width varies 11″ to 48″, length 3′ 6″, spacing 6′ 0″ c to c.

CAPSTANS None.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	25 long tons	55′ 0″ with hook at CL
Auxiliary		
Whip	5 long tons	120′ 0″, 52′ 0″ minimum reach

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 4-pole	460	800
AC, 3-pole	460	1,600
AC, 2-pole	120	2,160
DC, battery charging	120/250	24,500

FRESH WATER One 3-in. main north side, 40 psi at 500 gpm.
One 4-in. main south side, 40 psi at 500 gpm.
Total of eight 2-in. connections, 4 on each side.

SALT WATER

FIRE PROTECTION 2 hydrants

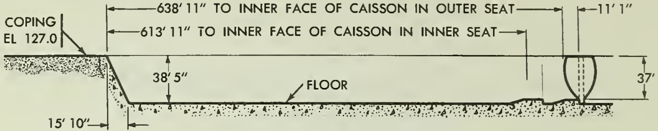
COMPRESSED AIR 4-in. mains, 125 cfm at 100 psi, eight 2-in. connections on each side.

STEAM One 2-in. main north side, 200 lb per hr at 125 psi.
One 3-in. main south side, 575 lb per hr at 125 psi.
Total of fifteen 1½-in. connections.

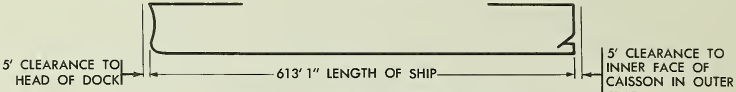
OXYGEN 1¼-in. west, 1½-in. east, 1½-in. main, total of 6 double outlets.

SANITARY SEWER INLETS

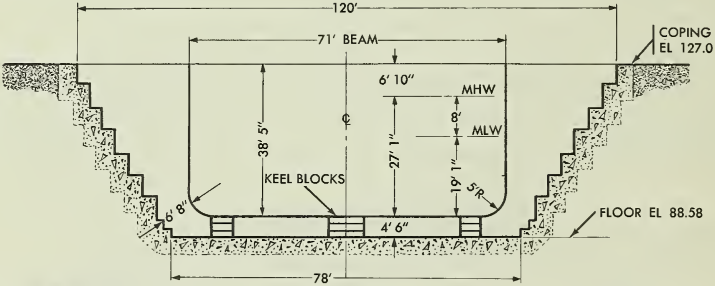
PUGET SOUND, WASH., NAVAL SHIPYARD
DRYDOCK NO. 1


638′ 11″ TO INNER FACE OF CAISSON IN OUTER SEAT
11′ 1″
613′ 11″ TO INNER FACE OF CAISSON IN INNER SEAT
COPING
EL 127.0
38′ 5″
FLOOR
37′
15′ 10″

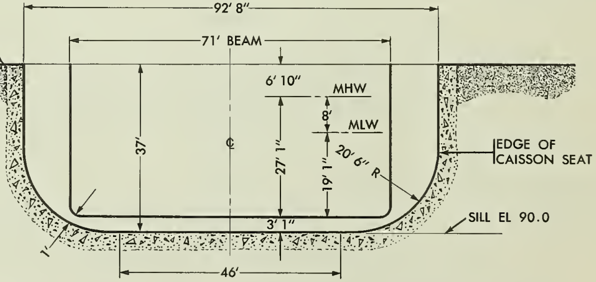
LONGITUDINAL SECTION
(VIEW LOOKING EAST)


5′ CLEARANCE TO HEAD OF DOCK
613′ 1″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 120.2′
MLW EL 112.2′
MLLW EL 109.4′
MEAN TIDAL RANGE 8.0′
KEEL BLOCKS 7′ 6″ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PUGET SOUND, WASH., NAVAL SHIPYARD
DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Piles.

CONSTRUCTION MATERIAL Concrete—masonry entrance.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Three 42-in., 53,333 gpm each, 160,000 gpm total.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 90 min.

TIME TO FLOOD Minimum 105 min.

KEEL BLOCKS 4′ 6″ high, 3′ 6″ wide, 4′ 0″ long, spacing 7′ 6″ c to c.

CAPSTANS 6 electrically operated, reversible: 1 at head, 1 at entrance for handling caisson, and 2 each side—30 fpm at 12,000 lb, 60 fpm at 6,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	95′ 0″ with hook at CL
Auxiliary	28 long tons	174′ 0″ with hook at CL
Whip	5 long tons	183′ 0″, 120′ 0″ minimum reach

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	450	780
AC, 3-ph	230	2,790
DC	125/250	780

FRESH WATER 4-in. main each side, total capacity 500 gpm at 80 psi.

SALT WATER 6-in. main each side, total capacity 1,500 gpm at 80 psi.

FIRE PROTECTION None.

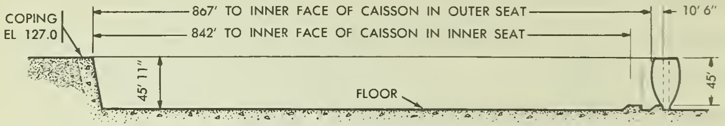
COMPRESSED AIR 6-in. main each side, total capacity 5,000 cfm at 80 psi.

STEAM 8-in. main east side, 30,000 lb per hr at 80 psi.

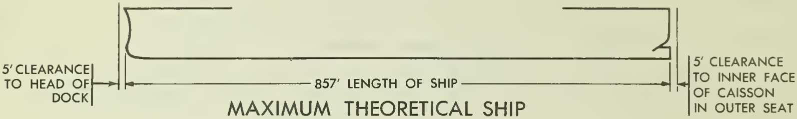
OXYGEN 2-in. main each side, total capacity 300 cfm at 100 psi.

SANITARY SEWER INLETS 6-in. main east side with 10 inlets spaced 48 ft c to c.
8-in. main west side with 10 inlets spaced 48 ft c to c.

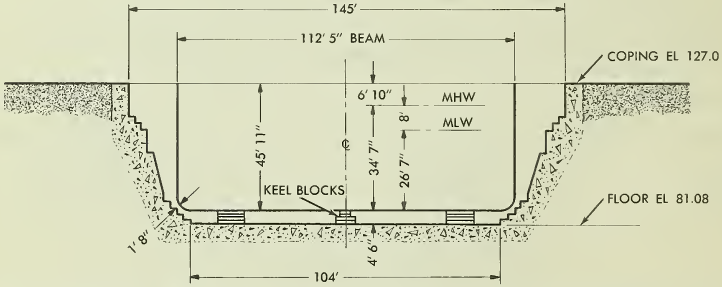
PUGET SOUND, WASH., NAVAL SHIPYARD
DRYDOCK NO. 2


COPING EL 127.0
867′ TO INNER FACE OF CAISSON IN OUTER SEAT
842′ TO INNER FACE OF CAISSON IN INNER SEAT
10′ 6″
45′ 11″
FLOOR
45′

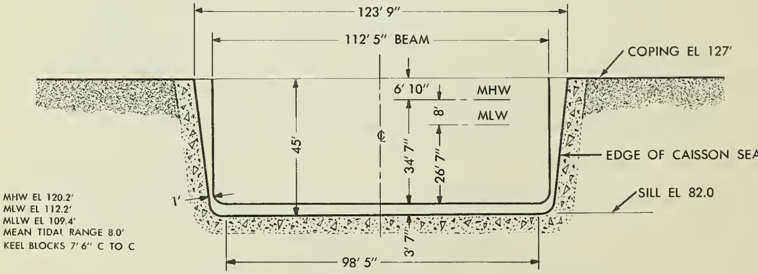
LONGITUDINAL SECTION
(VIEW LOOKING EAST)


5′ CLEARANCE TO HEAD OF DOCK
857′ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 120.2′
MLW EL 112.2′
MLLW EL 109.4′
MEAN TIDAL RANGE 8.0′
KEEL BLOCKS 7′ 6″ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PUGET SOUND, WASH., NAVAL SHIPYARD
DRYDOCK NO. 2

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Earth.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (hydrometer).

PUMPS Four 48-in., total capacity 324,000 gpm divided as follows: 79,000, 82,000, 79,000, and 84,000.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER 165 min average. (With 3 pumps at Drydock No. 4 that are available by tunnel, the 7 pumps can dewater in 75 min.)

TIME TO FLOOD 75 min average.

KEEL BLOCKS 4′ 6″ high, 3′ 6″ wide, 4′ 0″ long, spacing 7′ 6″ c to c.

CAPSTANS 11 electrically or hand operated, reversible: 1 at head of dock—80 fpm at no load, 30 fpm at 14,000 lb, 12 fpm at 35,000 lb; 4 each side of dock—50 fpm at no load, 17 fpm at 12,000 lb, 7 fpm at 24,140 lb; 2 on caisson—90 fpm at no load, 80 fpm at 1,500 lb, 10 fpm at 12,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	82′ 0″ with hook at CL
Auxiliary	25 long tons	172′ 0″ with hook at CL
Whip	4.9 long tons	180′ 0″, 120′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	450	3,480
AC, 3-ph	230	2,490
DC	125/250	7,540

FRESH WATER 8-in. main each side, total capacity 3,000 gpm at 80 psi.

SALT WATER 8-in. main each side, total capacity 3,000 gpm at 80 psi.

FIRE PROTECTION None.

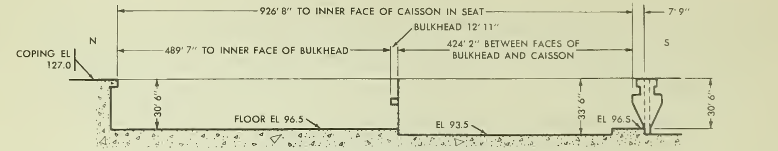
COMPRESSED AIR 6-in. main each side, total capacity 5,000 cfm at 80 psi.

STEAM Three 3-in. mains east side, three 2½-in. mains west side, total capacity 21,000 lb per hr at 80 psi.

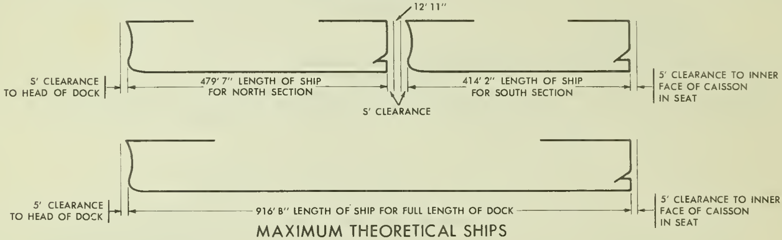
OXYGEN 3-in. main each side, total capacity 1,000 cfm at 100 psi.

SANITARY SEWER INLETS 8-in. main east side with 36 inlets spaced 36 ft c to c.
8-in. main west side with 36 inlets spaced 36 ft c to c.

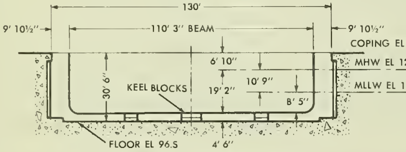
PUGET SOUND, WASH., NAVAL SHIPYARD
DRYDOCK NO. 3


926' 8" TO INNER FACE OF CAISSON IN SEAT
7' 9"
BULKHEAD 12' 11"
N
S
COPING EL 127.0
489' 7" TO INNER FACE OF BULKHEAD
424' 2" BETWEEN FACES OF BULKHEAD AND CAISSON
30' 6"
FLOOR EL 96.5
EL 93.5
33' 6"
EL 96.5
30' 6"

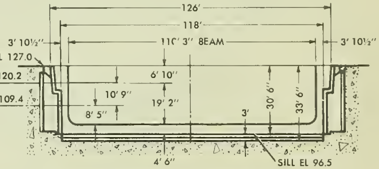
LONGITUDINAL SECTION
(VIEW LOOKING EAST)


12' 11"
5' CLEARANCE TO HEAD OF DOCK
479' 7" LENGTH OF SHIP FOR NORTH SECTION
414' 2" LENGTH OF SHIP FOR SOUTH SECTION
5' CLEARANCE TO INNER FACE OF CAISSON IN SEAT
5' CLEARANCE
5' CLEARANCE TO HEAD OF DOCK
916' 8" LENGTH OF SHIP FOR FULL LENGTH OF DOCK
5' CLEARANCE TO INNER FACE OF CAISSON IN SEAT

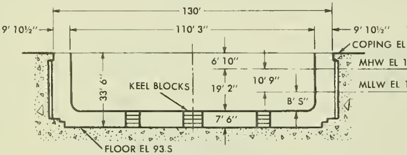
MAXIMUM THEORETICAL SHIPS



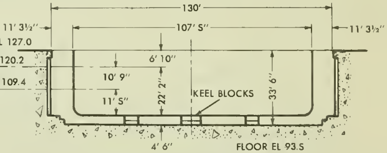
NORTH SECTION OF DRYDOCK
WITH SHIP'S BOTTOM AT EL 101.0



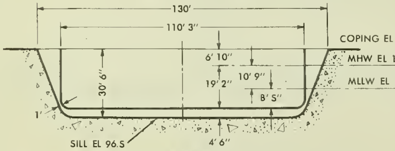
CENTER BULKHEAD SEAT
WITH SHIP'S BOTTOM AT EL 101.0



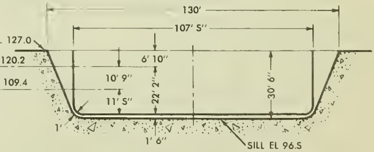
SOUTH SECTION OF DRYDOCK
WITH SHIP'S BOTTOM AT EL 101.0



SOUTH SECTION OF DRYDOCK
WITH SHIP'S BOTTOM AT EL 98.0



ENTRANCE ELEVATION
WITH SHIP'S BOTTOM AT EL 101.0



ENTRANCE ELEVATION
WITH SHIP'S BOTTOM AT EL 98.0

MEAN TIDAL RANGE 8.0
KEEL BLOCKS 6' C TO C

SECTIONS AND ELEVATIONS OF DRYDOCK SHOWING MAXIMUM THEORETICAL SHIP
SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PUGET SOUND, WASH., NAVAL SHIPYARD
DRYDOCK NO. 3

FUNCTION OF DOCKING Shipbuilding and repair.

SUITABLE IN GENERAL FOR DOCKING DD and SS.

FOUNDATION Clay and piles.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Bulkhead and beam north section, caisson (hydrometer) south section.

PUMPS Two 14-in. south section, 4,500 gpm each.
Two 12-in. north section, 2,000 gpm each.
Total capacity 13,000 gpm.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER South section 90 min, total 210 min.

TIME TO FLOOD South section 60 min, total 120 min.

KEEL BLOCKS 4′ 6″ high, 3′ 6″ wide, 4′ 0″ long, spacing 6′ 0″ c to c.

CAPSTANS 6 electrically operated: 3 each side—30 fpm at 24,000 lb, 60 fpm at 12,000 lb.
2 electrically operated, reversible: on caisson—80 fpm at no load, 80 fpm at 1,500 lb, 25 fpm at 5,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	85′ 0″ with hook at CL
Auxiliary	25 long tons	172′ 0″ with hook at CL
Whip	5 long tons	179′ 0″, 120′ 0″ minimum reach

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	450	800
AC, 3-ph	230	800
AC, 1-ph	115/230	600
DC	125/250	1,000

FRESH WATER 4-in. main each side, total capacity 500 gpm at 80 psi.

SALT WATER 8-in. main each side, total capacity 3,000 gpm at 80 psi.

FIRE PROTECTION None.

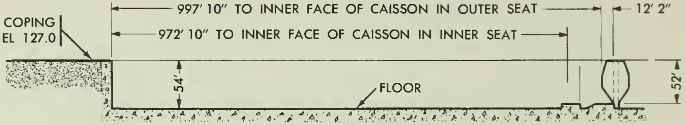
COMPRESSED AIR 6-in. main each side, total capacity 5,000 cfm at 80 psi.

STEAM Two 2-in. mains west side, total capacity 4,000 lb per hr at 80 psi.

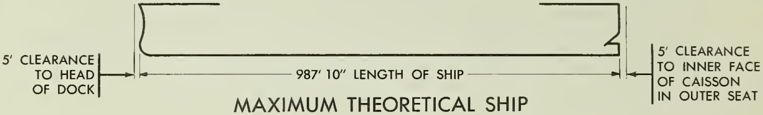
OXYGEN 2-in. main east side, 2½-in. main west side, total capacity 400 cfm at 100 psi.

SANITARY SEWER INLETS 8-in. main east side with 18 inlets spaced 36 ft c to c.
8-in. main west side with 18 inlets spaced 36 ft c to c.

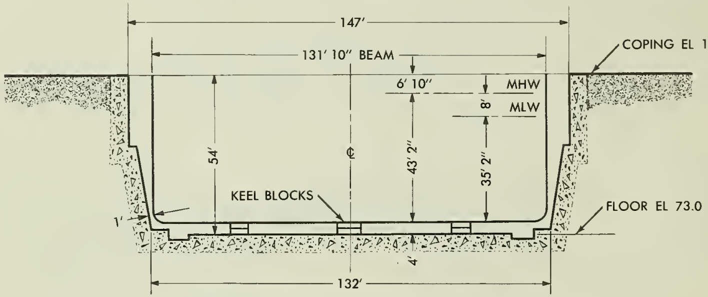
PUGET SOUND, WASH., NAVAL SHIPYARD
DRYDOCK NO. 4


997′ 10″ TO INNER FACE OF CAISSON IN OUTER SEAT
12′ 2″
COPING
EL 127.0
972′ 10″ TO INNER FACE OF CAISSON IN INNER SEAT
54′
FLOOR
52′

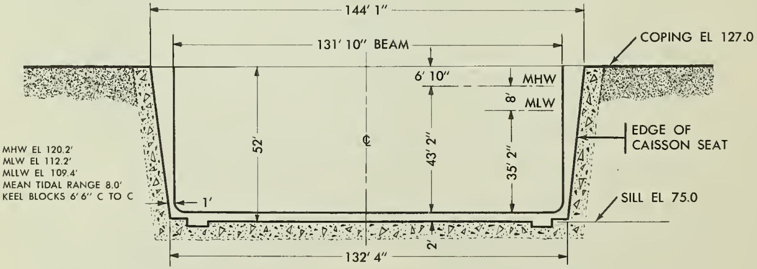
LONGITUDINAL SECTION
(VIEW LOOKING EAST)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 120.2′
MLW EL 112.2′
MLLW EL 109.4′
MEAN TIDAL RANGE 8.0′
KEEL BLOCKS 6′ 6″ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PUGET SOUND, WASH., NAVAL SHIPYARD
DRYDOCK NO. 4

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Soil.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (fin-keel type).

PUMPS Three 54-in., 130,000 gpm each (interconnected with 3 similar pumps at Drydock No. 5).

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER With 3 pumps 195 min, with 6 pumps 90 min.

TIME TO FLOOD 90 min.

KEEL BLOCKS 4′ 0″ high, 3′ 6″ wide, 4′ 0″ long, spacing 6′ 6″ c to c.

CAPSTANS 13 electrically operated, reversible: 1 at head of dock and 1 on each side outboard—30 fpm at 24,000 lb, 60 fpm at 12,000 lb; 5 each side—30 fpm at 12,000 lb, 60 fpm at 6,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	79′ 0″ with hook at CL
Auxiliary	25 long tons	171′ 0″ with hook at CL
Whip	4.9 long tons	179′ 0″, 120′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	450	2,000
AC, 3-ph	230	1,600
DC	125/250	5,200

FRESH WATER 6-in. main east side, 8-in. main west side, total capacity 2,250 gpm at 80 psi.

SALT WATER 8-in. main each side, total capacity 3,000 gpm at 80 psi.

FIRE PROTECTION None.

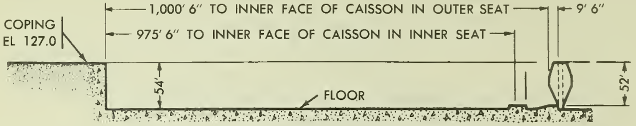
COMPRESSED AIR 6-in. main each side, total capacity 5,000 cfm at 80 psi.

STEAM 6-in. main east side, 8-in. main west side, total capacity 45,000 lb per hr at 80 psi.

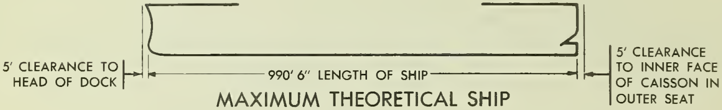
OXYGEN 2-in. main east side, 3-in. main west side, total capacity 650 cfm at 100 psi.

SANITARY SEWER INLETS 8-in. main on both sides with 24 inlets on each spaced 36 ft c to c.

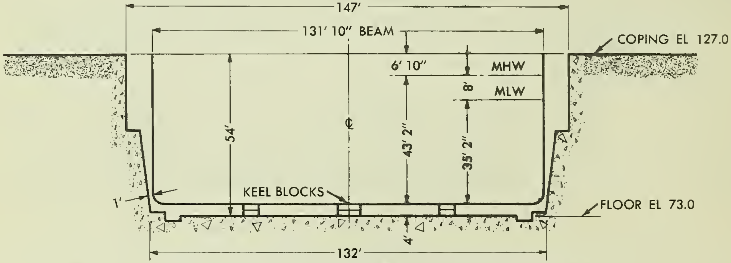
PUGET SOUND, WASH., NAVAL SHIPYARD
DRYDOCK NO. 5


COPING EL 127.0
1,000′ 6″ TO INNER FACE OF CAISSON IN OUTER SEAT
975′ 6″ TO INNER FACE OF CAISSON IN INNER SEAT
9′ 6″
54′
FLOOR
52′

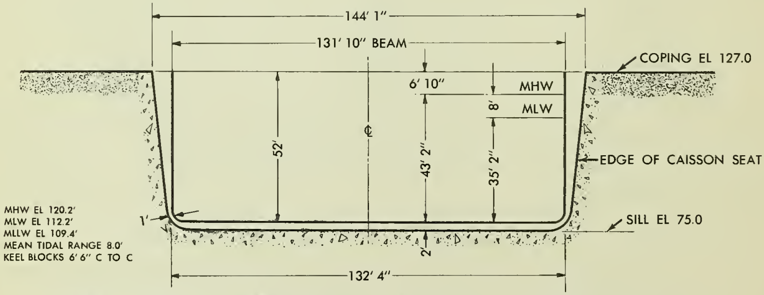
LONGITUDINAL SECTION


5′ CLEARANCE TO HEAD OF DOCK
990′ 6″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PUGET SOUND, WASH., NAVAL SHIPYARD

DRYDOCK NO. 5

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Soil and piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (fin-keel type).

PUMPS Three 54-in., 130,000 gpm each (interconnected with 3 similar pumps at Drydock No. 4).

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER With 3 pumps 195 min, with 6 pumps 90 min.

TIME TO FLOOD 90 min.

KEEL BLOCKS 4′ 0″ high, 3′ 6″ wide, 4′ 0″ long, spacing 6′ 6″ c to c.

CAPSTANS 13 electrically operated, reversible: 1 at head of dock and 1 on each side outboard—30 fpm at 24,000 lb, 60 fpm at 12,000 lb; 5 each side—30 fpm at 12,000 lb, 60 fpm at 6,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	50 long tons	79′ 0″ with hook at CL
Auxiliary	25 long tons	171′ 0″ with hook at CL
Whip	4.9 long tons	179′ 0″, 120′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	450	2,500
AC, 3-ph	230	1,600
AC, 1-ph	230	2,400
DC	125/250	3,500

FRESH WATER 6-in. main each side, total capacity 1,500 gpm at 80 psi.

SALT WATER 6-in. main each side, total capacity 1,500 gpm at 80 psi.

FIRE PROTECTION None.

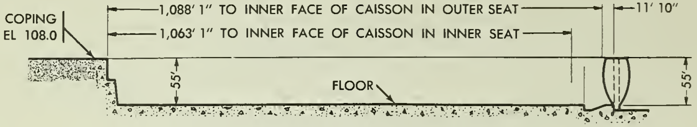
COMPRESSED AIR 6-in. main each side, 5,000 cfm at 80 psi.

STEAM 5-in. main east side, 8-in. main west side, total capacity 37,000 lb per hr at 80 psi.

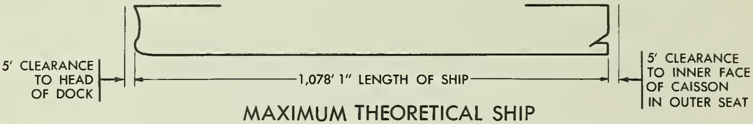
OXYGEN 3-in. main east side, 2-in. main west side, total capacity 650 cfm at 100 psi.

SANITARY SEWER INLETS 8-in. main on both sides with 24 inlets on each spaced 36 ft c to c.

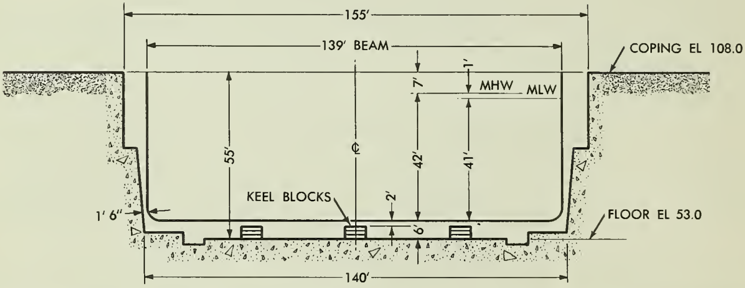
ROOSEVELT ROADS, VIEQUES, P. R., NAVAL STATION
DRYDOCK NO. 1


COPING EL 108.0
1,088′ 1″ TO INNER FACE OF CAISSON IN OUTER SEAT
11′ 10″
1,063′ 1″ TO INNER FACE OF CAISSON IN INNER SEAT
55′
FLOOR
55′

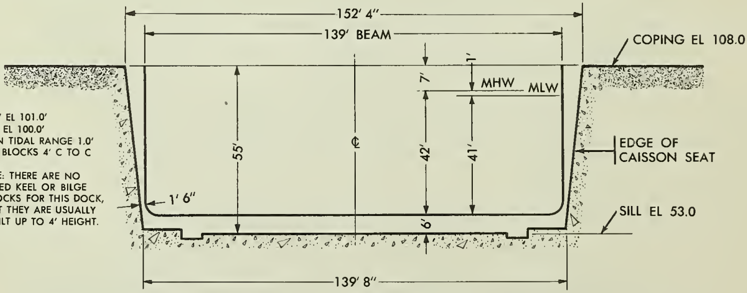
LONGITUDINAL SECTION
(VIEW LOOKING NORTHEAST)


5′ CLEARANCE TO HEAD OF DOCK
1,078′ 1″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 101.0′
MLW EL 100.0′
MEAN TIDAL RANGE 1.0′
KEEL BLOCKS 4′ C TO C

NOTE: THERE ARE NO FIXED KEEL OR BILGE BLOCKS FOR THIS DOCK, BUT THEY ARE USUALLY BUILT UP TO 4′ HEIGHT.

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

ROOSEVELT ROADS, VIEQUES, P. R., NAVAL STATION
DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Soil.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE 1 steel caisson (ship section), 1 spare caisson (concrete box).

PUMPS Four 54-in., 88,000 gpm each. Two 16-in., 6,000 gpm each.

METHOD OF FLOODING Flooding through tunnels in normal operation; may also flood through caisson.

TIME TO DEWATER 165 min with 4 main pumps.

TIME TO FLOOD 180 min.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 4′ 0″ long (usually built up as required), spacing 4′ 0″ c to c.

CAPSTANS 13 electrically operated, reversible: 5 on each side of dock—30 fpm at 12,000 lb, 60 fpm at 6,000 lb; 1 on each side near caisson and 1 at head of dock—30 fpm at 24,000 lb, 60 fpm at 12,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above top of rail*
Main	74 tons	75′ 0″ with hook at CL
Auxiliary	15 tons	80′ 0″ with hook at CL
Whip	7 tons	80′ 0″, 108′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph	460	400
AC, 3-ph, 4-wire	120/208	200
AC, 3-ph	460	1,600
DC	120/240	2,500
DC	125/250	400

FRESH WATER 6-in. mains, 580 gpm at 100 psi.

SALT WATER 8-in. mains, 1,800 gpm at 125 psi.

FIRE PROTECTION 1,800 gpm at 125 psi.

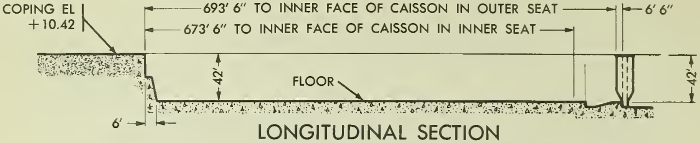
COMPRESSED AIR 6-in. mains, 6,000 cfm at 100 psi.

STEAM 6-in. mains, 24,000 lb per hr at 120 psi.

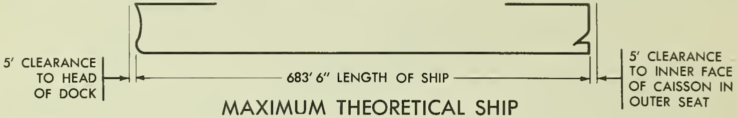
OXYGEN No installation.

SANITARY SEWER INLETS 8-in. main each side with 27 inlets on each spaced 36 ft c to c.

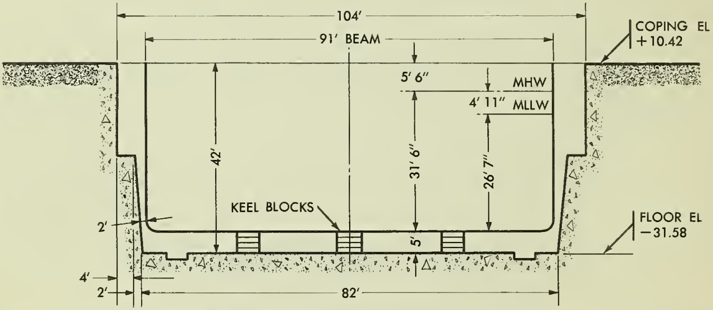
SAN DIEGO, CALIF., NAVAL STATION
DRYDOCK NO. 1


COPING EL +10.42
693′ 6″ TO INNER FACE OF CAISSON IN OUTER SEAT
6′ 6″
673′ 6″ TO INNER FACE OF CAISSON IN INNER SEAT
42′
FLOOR
42′
6′

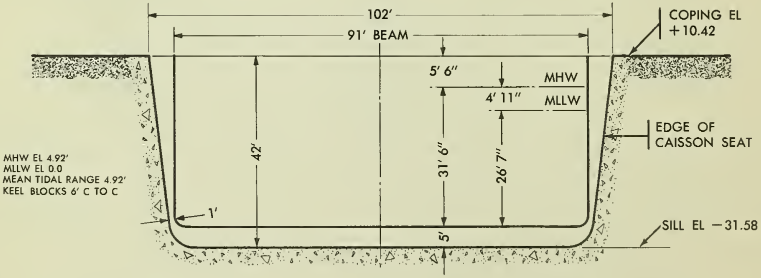
LONGITUDINAL SECTION
(VIEW LOOKING SOUTHEAST)


5′ CLEARANCE TO HEAD OF DOCK
683′ 6″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

SAN DIEGO, CALIF., NAVAL STATION
DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Soil.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (trapezoid section, steel, reversible; emergency closure is steel reversible gate).

PUMPS Two 54-in., 110,000 gpm each.
Two 16-in., 7,000 gpm each.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 95 min.

TIME TO FLOOD Minimum 60 min.

KEEL BLOCKS 4′ 6″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 7 electrically operated, reversible: 1 at head of dock and 3 on each side—30 fpm at 12,000 lb, 60 fpm at 6,000 lb, speed 770 to 1,560 rpm.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above coping*
Main	30 long tons	90′ 0″ with hook at CL
Auxiliary		
Whip	5 long tons	105′ 0″, 135′ 0″ max radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC	2,300	444

FRESH WATER 6-in. mains, 3,000 gpm at 90 psi.

SALT WATER 6-in. mains, 3,000 gpm at 90 psi.

FIRE PROTECTION 3,000 gpm at 90 psi.

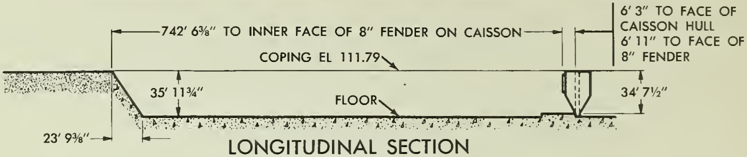
COMPRESSED AIR 6-in. mains, 250 cfm at 125 psi.

STEAM 6-in. mains, 70,000 lb per hr at 100 psi.

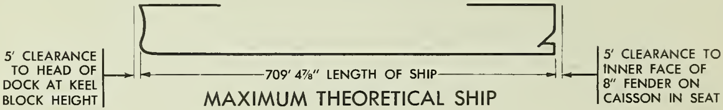
OXYGEN No installation.

SANITARY SEWER INLETS 8-in. main on both sides with 30 inlets on each spaced 36 ft c to c.

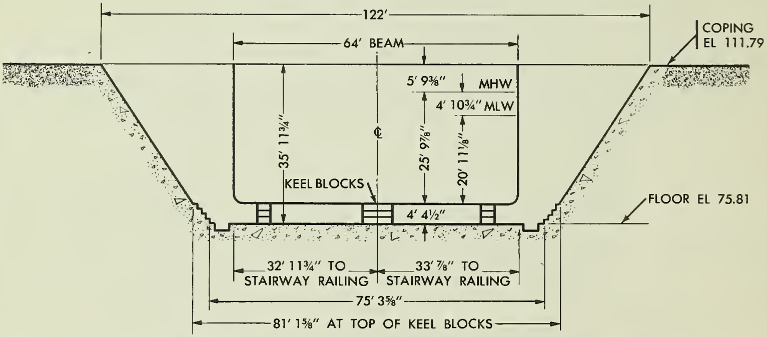
SAN FRANCISCO, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 2


742′ 6⅜″ TO INNER FACE OF 8″ FENDER ON CAISSON
6′ 3″ TO FACE OF CAISSON HULL
6′ 11″ TO FACE OF 8″ FENDER
COPING EL 111.79
35′ 11¾″
FLOOR
34′ 7½″
23′ 9⅜″

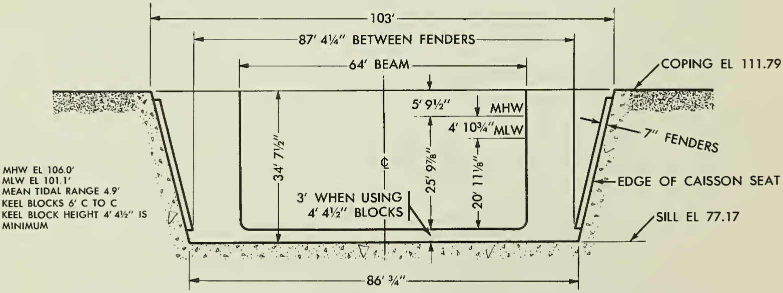
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)


5′ CLEARANCE TO HEAD OF DOCK AT KEEL BLOCK HEIGHT
709′ 4⅞″ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF 8″ FENDER ON CAISSON IN SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

SAN FRANCISCO, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 2

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Rock.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (rectangular-box shape).

PUMPS Three 38-in., total capacity 120,000 gpm. Pumps of Drydock No. 3 may be used if necessary.

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER 2 hr 30 min average.

TIME TO FLOOD 1 hr 20 min average.

KEEL BLOCKS 4′ 4½″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 8 electrically operated, reversible: 3—12 fpm at 35,000 lb, 30 fpm at 14,000 lb, 90 fpm at 4,700 lb; 1—30 fpm at 12,000 lb, 60 fpm at 8,000 lb, 90 fpm at 4,000 lb; 1—30 fpm at 36,000 lb, 60 fpm at 18,000 lb; 1—20 fpm max at 40,000 lb (winch); 2—75 fpm at 6,000 lb (caisson).
2 air operated, nonreversible: 30 fpm max at 10,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above wharf*
Main	44 long tons	113′ 0″ with hook at CL
Auxiliary	28 long tons	188′ 0″ with hook at CL
Whip	5 long tons	192′ 0″, 90′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph, ship service and welding	480	1,300
AC, 1-ph, 3-wire	120/240	800
AC, 3-ph, 3-wire	240	1,080
Welding	70	1,500
DC, 3-wire	125/250	3,000

FRESH WATER 6-in. main both sides, 100 gpm at 67 psi.

SALT WATER 8-in. main each side, total capacity 600 gpm at 107 psi.

FIRE PROTECTION 3,500 gpm total from 3 outlets on 8-in. main each side of dock; pressure on north side 110 to 97 psi; pressure on south side 80 to 75 psi.

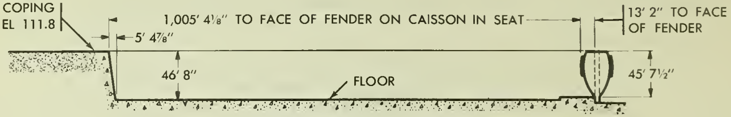
COMPRESSED AIR 6-in. main each side, total capacity 2,000 cfm at 108 psi.

STEAM 6-in. main each side, total capacity 5,000 lb per hr at 148 psi.

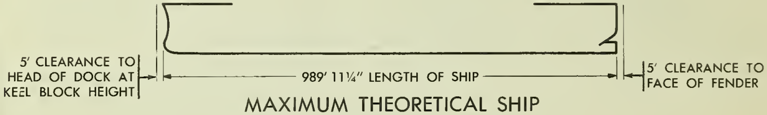
OXYGEN No installation.

SANITARY SEWER INLETS 10-in. main on both sides, 11 inlets on each spaced 50 ft c to c.

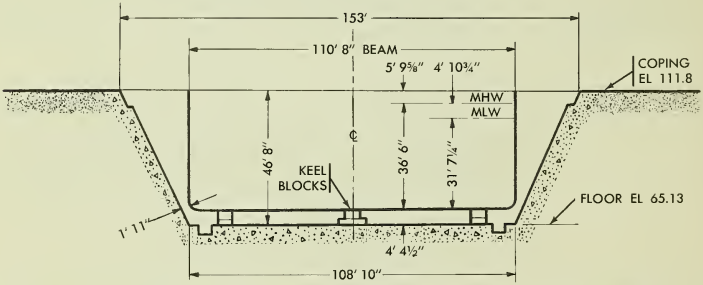
SAN FRANCISCO, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 3



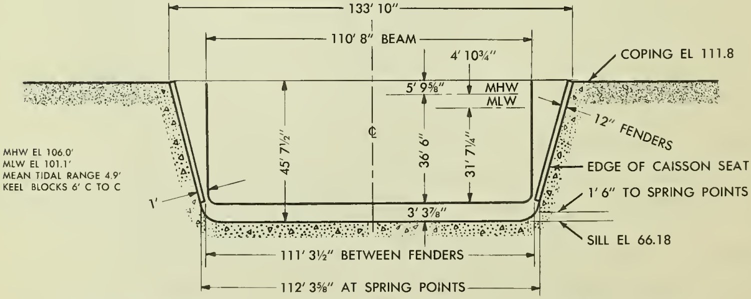
LONGITUDINAL SECTION
(VIEW LOOKING NORTH)


5′ CLEARANCE TO HEAD OF DOCK AT KEEL BLOCK HEIGHT
989′ 11¼″ LENGTH OF SHIP
5′ CLEARANCE TO FACE OF FENDER

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 106.0′
MLW EL 101.1′
MEAN TIDAL RANGE 4.9′
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

SAN FRANCISCO, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 3

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Rock.

CONSTRUCTION MATERIAL Granite and concrete.

ENTRANCE CLOSURE Caisson (ship shape).

PUMPS Four 43-in., total capacity 575,000 gpm. Pumps of Drydock No. 2 may be used.

METHOD OF FLOODING Flooding through caisson.

TIME TO DEWATER 2 hr 30 min average.

TIME TO FLOOD 1 hr average.

KEEL BLOCKS 4′ 4½″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 11 electrically operated, reversible: 9—12 fpm at 35,000 lb, 30 fpm at 14,000 lb, 90 fpm at 4,700 lb; 2—160 fpm at 12,000 lb (caisson).

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above wharf*
Main	44 long tons	96′ 0″ with hook at CL
Auxiliary	28 long tons	180′ 0″ with hook at CL
Whip	5 long tons	192′ 0″, 90′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph, ship service and welding	480	2,400
AC, 1-ph, 3-wire	120/240	1,200
AC, 3-ph, 3-wire	240	1,560
Welding	70	2,000
DC, 3-wire	125/250	3,600

FRESH WATER 6-in. main south side, 4-in. main north side—total capacity 120 gpm at 59 psi.

SALT WATER 8-in. main each side, total capacity 1,000 gpm at 84 psi.

FIRE PROTECTION 8-in. main each side of dock, total capacity 3,200 gpm at 105 to 58 psi from 6 outlets (3 on each main).

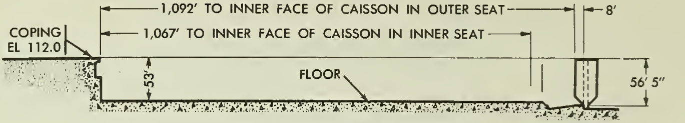
COMPRESSED AIR 6-in. main each side, total capacity 3,500 cfm at 105 psi.

STEAM 6-in. main each side, total capacity 5,000 lb per hr at 147 psi.

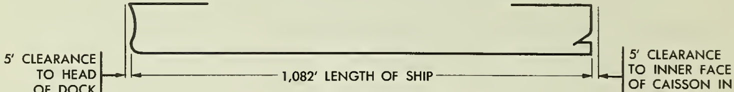
OXYGEN No installation.

SANITARY SEWER INLETS 10-in. main on both sides with 17 inlets on each spaced approx 50 ft c to c.

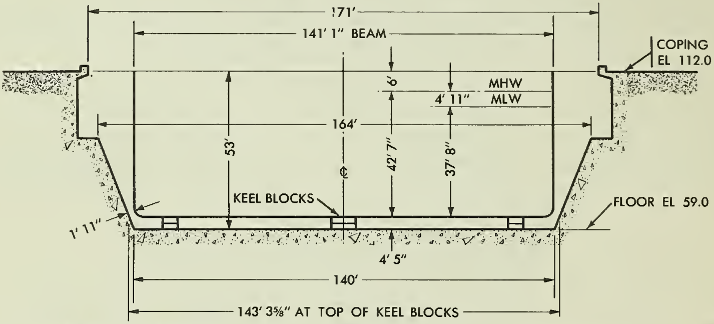
SAN FRANCISCO, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 4


1,092' TO INNER FACE OF CAISSON IN OUTER SEAT
8'
1,067' TO INNER FACE OF CAISSON IN INNER SEAT
COPING
EL 112.0
53'
FLOOR
56' 5"

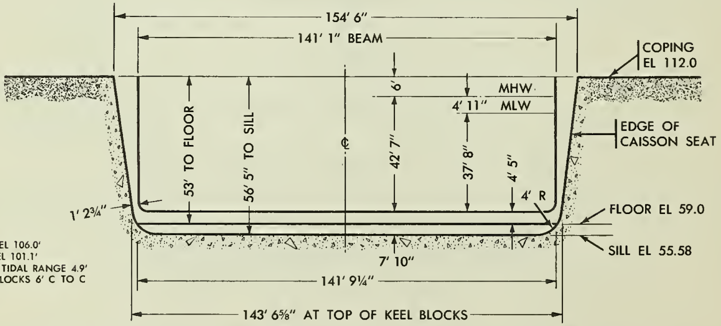
LONGITUDINAL SECTION
(VIEW LOOKING NORTHEAST)



MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 106.0'
MLW EL 101.1'
MEAN TIDAL RANGE 4.9'
KEEL BLOCKS 6' C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

SAN FRANCISCO, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 4

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING BB and carriers.

FOUNDATION Rock.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (rectangular-box shape).

PUMPS Three 46-in., total capacity 510,000 gpm.

METHOD OF FLOODING Flooding through 2 culverts.

TIME TO DEWATER 2 hr 30 min average.

TIME TO FLOOD 1 hr average.

KEEL BLOCKS 4′ 5″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 13 electrically operated, reversible: 3—30 fpm at 36,000 lb, 60 fpm at 18,000 lb; 10—30 fpm at 16,000 lb, 60 fpm at 8,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above wharf*
Main	44 long tons	82′ 0″ with hook at CL
Auxiliary	28 long tons	172′ 0″ with hook at CL
Whip	5 long tons	192′ 0″, 90′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph, ship service and welding	480	2,500
AC, 3-ph, 4-wire	120/208	1,600
DC, 3-wire	125/250	3,200

FRESH WATER 6-in. main each side, total capacity 120 gpm at 69 psi.

SALT WATER 8-in. main each side, total capacity 1,000 gpm at 109 psi.

FIRE PROTECTION 8-in. main each side of dock, total capacity 5,400 gpm from total of 6 outlets as follows: 3 on north side at 106 to 103 psi, and 3 on south side.

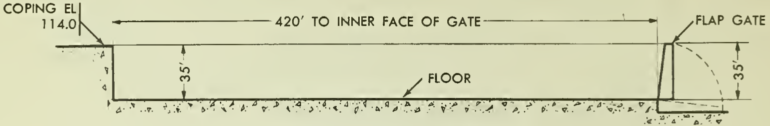
COMPRESSED AIR 6-in. main each side, total capacity 3,500 cfm at 106 psi.

STEAM 6-in. main each side, total capacity 5,000 lb per hr at 149 psi.

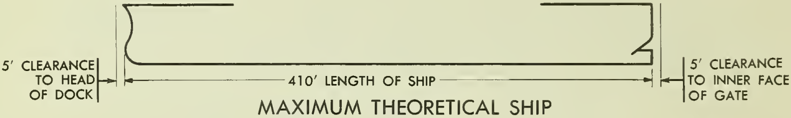
OXYGEN No installation.

SANITARY SEWER INLETS 8-in. main on both sides with 27 inlets on each spaced approx 30 ft c to c.

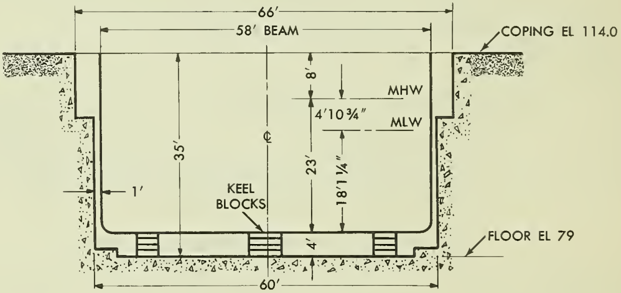
SAN FRANCISCO, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 5



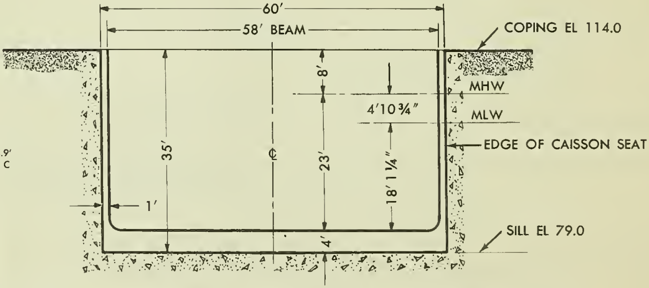
LONGITUDINAL SECTION
(VIEW LOOKING SOUTHEAST)


5′ CLEARANCE TO HEAD OF DOCK
410′ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF GATE

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 106.0′
MLW EL 101.1′
MEAN TIDAL RANGE 4.9′
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

SAN FRANCISCO, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 5

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING SS, DD, and LST.

FOUNDATION Timber piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Flap gate.

PUMPS Four 24-in., total capacity 80,000 gpm.

METHOD OF FLOODING Flooding through 2 sluice gates.

TIME TO DEWATER 1 hr 15 min average.

TIME TO FLOOD 45 min average.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 5 electrically operated, reversible: 30 fpm at 16,000 lb, 60 fpm at 8,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above wharf*
Main	30 long tons	99′ 0″ with hook at CL
Auxiliary		
Whip	5 long tons	135′ 0″, 58′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph, ship service	480	400
AC, 3-ph, welding	480	400
AC, 3-ph, 4-wire	120/208	300
Welding	70	2,000
Battery charging (submarines)		1,600
DC, 3-wire	125/250	400

FRESH WATER 6-in. main and 4-in. main north side, total capacity 40 gpm at 68 psi.

SALT WATER 6-in. main north side, 400 gpm at 109 psi.

FIRE PROTECTION 6-in. main north side, 3 outlets, total capacity 2,500 gpm at 34 to 10 psi.

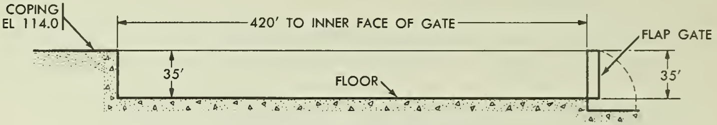
COMPRESSED AIR 4-in. main north side, 1,500 cfm at 107 psi.

STEAM 6-in. main and 4-in. main north side, total capacity 2,000 lb per hr at 144 psi.

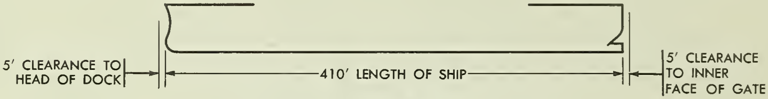
OXYGEN No installation.

SANITARY SEWER INLETS 6-in. main on both sides with 10 inlets on each spaced 36 ft c to c.

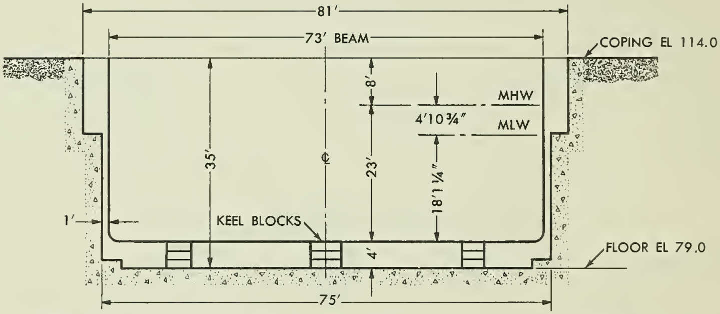
SAN FRANCISCO, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 6



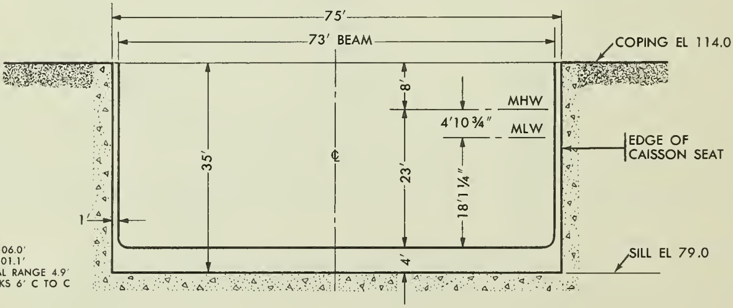
LONGITUDINAL SECTION
(VIEW LOOKING SOUTHEAST)


5′ CLEARANCE TO HEAD OF DOCK
410′ LENGTH OF SHIP
5′ CLEARANCE TO INNER FACE OF GATE

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 106.0′
MLW EL 101.1′
MEAN TIDAL RANGE 4.9′
KEEL BLOCKS 6′ C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

SAN FRANCISCO, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 6

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING 2 SS, 1 DD, or 1 C-1 merchant ship.

FOUNDATION Timber piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Flap gate.

PUMPS Four 24-in., total capacity 80,000 gpm.

METHOD OF FLOODING Flooding through 2 sluice gates.

TIME TO DEWATER 1 hr 20 min average.

TIME TO FLOOD 50 min average.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 1 electrically operated, reversible: 30 fpm at 16,000 lb, 60 fpm at 8,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above wharf*
Main	30 long tons	95′ 0″ with hook at CL
Auxiliary		
Whip	5 long tons	135′ 0″, 58′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph, ship service	480	800
AC, 3-ph, welding	480	800
AC, 3-ph, 4-wire	120/208	600
Welding	70	2,000
Battery charging (submarines)		1,600
DC, 3-wire	125/250	800

FRESH WATER 6-in. main and 4-in. main each side, total capacity 40 gpm at 68 psi.

SALT WATER 6-in. main each side, 400 gpm at 109 psi.

FIRE PROTECTION 6-in. main each side, total capacity, 2,500 gpm, 95 to 88 psi north side, 92.4 to 86.2 psi south side.

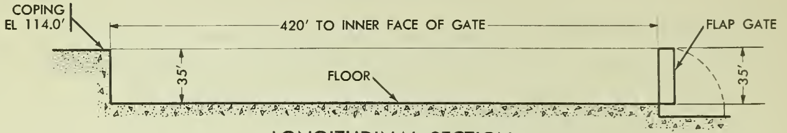
COMPRESSED AIR 4-in. main each side, 1,500 cfm at 107 psi.

STEAM 6-in. main and 4-in. main each side, total capacity 2,000 lb per hr at 144 psi.

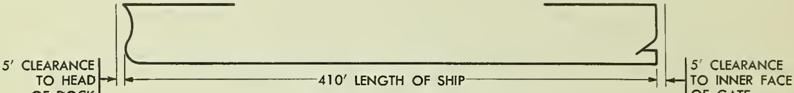
OXYGEN No installation.

SANITARY SEWER INLETS 6-in. main on both sides with 10 inlets on each spaced 36 ft c to c.

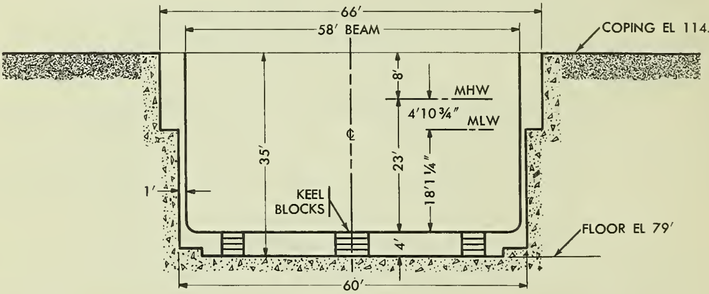
SAN FRANCISCO, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 7



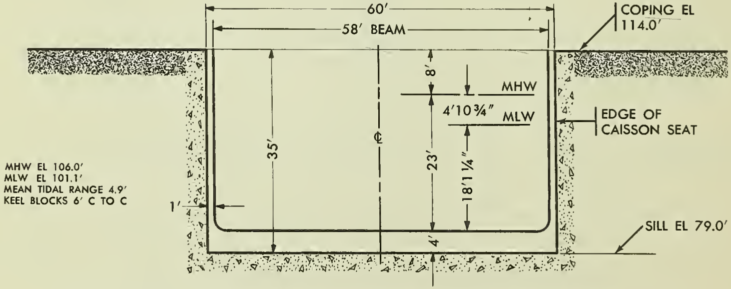
LONGITUDINAL SECTION
(VIEW LOOKING SOUTHEAST)


5' CLEARANCE TO HEAD OF DOCK
410' LENGTH OF SHIP
5' CLEARANCE TO INNER FACE OF GATE

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



MHW EL 106.0'
MLW EL 101.1'
MEAN TIDAL RANGE 4.9'
KEEL BLOCKS 6' C TO C

ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

SAN FRANCISCO, CALIF., NAVAL SHIPYARD
DRYDOCK NO. 7

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING SS, DD, and LST.

FOUNDATION Timber piles.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Flap gate.

PUMPS Four 24-in., total capacity 80,000 gpm.

METHOD OF FLOODING Flooding through 2 sluice gates.

TIME TO DEWATER 1 hr 15 min average.

TIME TO FLOOD 45 min average.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 3′ 6″ long, spacing 6′ 0″ c to c.

CAPSTANS 5 electrically operated, reversible: 30 fpm at 16,000 lb, 60 fpm at 8,000 lb.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*	*Max height above wharf*
Main	30 long tons	99′ 0″ with hook at CL
Auxiliary		
Whip	5 long tons	135′ 0″, 58′ 0″ minimum radius

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC, 3-ph, ship service	480	400
AC, 3-ph, welding	480	400
AC, 3-ph, 4-wire	120/208	300
Welding	70	2,000
Battery charging (submarines)		1,600
DC, 3-wire	125/250	400

FRESH WATER 6-in. main and 4-in. main south side, total capacity 40 gpm at 68 psi.

SALT WATER 6-in. main south side, 400 gpm at 109 psi.

FIRE PROTECTION 6-in. main south side, 3 outlets total capacity 2,500 gpm at 44 to 20 psi.

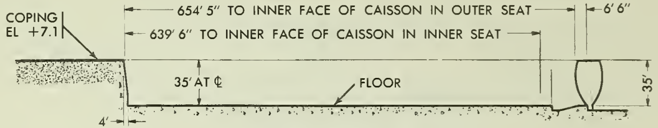
COMPRESSED AIR 4-in. main south side, 1,500 cfm at 107 psi.

STEAM 6-in. main and 4-in. main south side, total capacity 2,000 lb per hr at 144 psi.

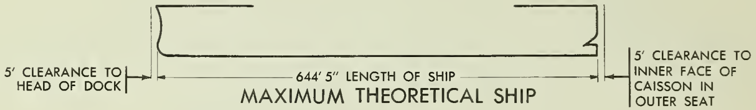
OXYGEN No installation.

SANITARY SEWER INLETS 6-in. main on both sides with 10 inlets on each spaced 36 ft c to c.

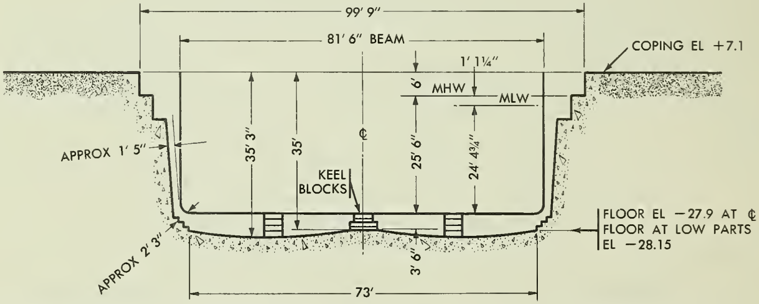
SAN JUAN, P. R., NAVAL STATION
DRYDOCK NO. 1


COPING EL +7.1
654' 5" TO INNER FACE OF CAISSON IN OUTER SEAT
6' 6"
639' 6" TO INNER FACE OF CAISSON IN INNER SEAT
35' AT ℄
FLOOR
35'
4'

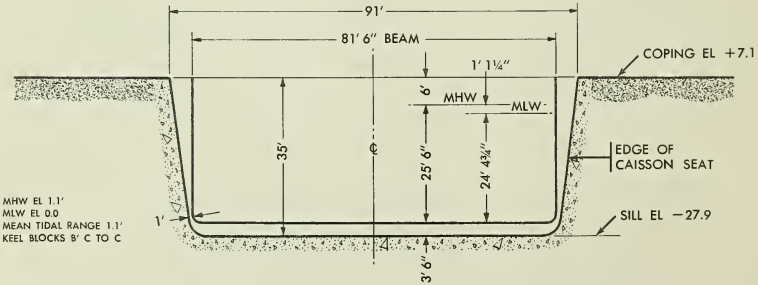
LONGITUDINAL SECTION
(VIEW LOOKING SOUTHEAST)


5' CLEARANCE TO HEAD OF DOCK
644' 5" LENGTH OF SHIP
5' CLEARANCE TO INNER FACE OF CAISSON IN OUTER SEAT

MAXIMUM THEORETICAL SHIP



SECTION THROUGH DRYDOCK BODY SHOWING MAXIMUM THEORETICAL SHIP



ENTRANCE ELEVATION SHOWING MAXIMUM THEORETICAL SHIP

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

SAN JUAN, P. R., NAVAL STATION
DRYDOCK NO. 1

FUNCTION OF DRYDOCK Repair.

SUITABLE IN GENERAL FOR DOCKING Cruisers and large auxiliaries.

FOUNDATION Hard-bearing material.

CONSTRUCTION MATERIAL Concrete.

ENTRANCE CLOSURE Caisson (ship section).

PUMPS Three 24-in., each 20,000 gpm at high head to 40,000 gpm at 12-ft head; two 6-in., one 2-in.

METHOD OF FLOODING Flooding through culverts.

TIME TO DEWATER Minimum 160 min.

TIME TO FLOOD Minimum 45 min.

KEEL BLOCKS 3′ 6″ high, 3′ 0″ wide, 3′ 0″ long, spacing 8′ 0″ c to c.

CAPSTANS 7 electrically operated, reversible: 3 on each side, 1 at head of dock.
2 hand operated, reversible: on caisson.

CRANES

Hook	*Max lift with hook 5 ft beyond CL*		*Max height above coping*
Main	25	tons	80′ 0″ to 85′ 0″ with hook at CL
Auxiliary	20	tons	45′ 0″ to 50′ 0″ with hook at CL
Whip			

SHIP SERVICES FURNISHED AT DOCK

ELECTRICITY

Type	*Volts*	*Total amperes*
AC	220/440	1,000
DC	125/250	

FRESH WATER 6-in. main, 1,000 gpm at 60 psi.

SALT WATER 10-in. main, 1,000 gpm.

FIRE PROTECTION Salt water, 100 hp, 1,000 gpm at 125 psi.

COMPRESSED AIR 4-in. mains, 490 cfm at 100 psi.

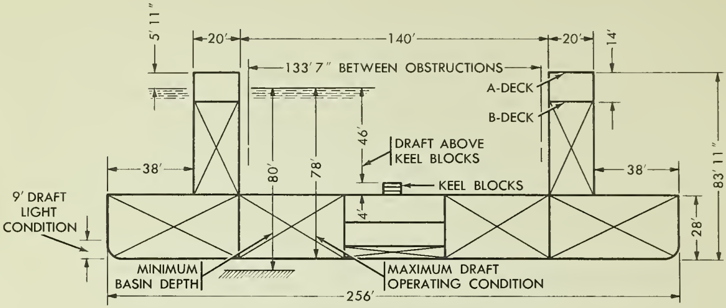
STEAM None.

OXYGEN No installation.

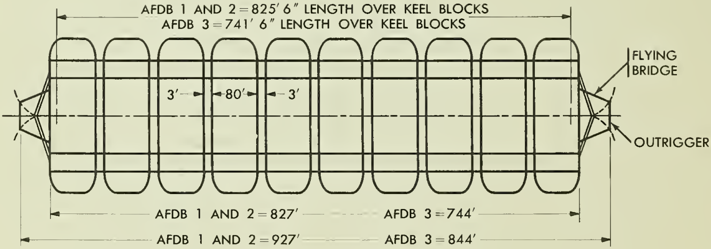
SANITARY SEWER INLETS 4-in. main on both sides with 7 inlets on each spaced 75 ft c to c.

FLOATING DRYDOCKS

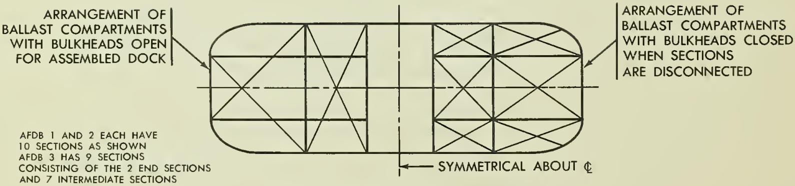
AFDB-1 THROUGH AFDB-3



TRANSVERSE SECTION



PLAN


ARRANGEMENT OF BALLAST COMPARTMENTS WITH BULKHEADS OPEN FOR ASSEMBLED DOCK
ARRANGEMENT OF BALLAST COMPARTMENTS WITH BULKHEADS CLOSED WHEN SECTIONS ARE DISCONNECTED
SYMMETRICAL ABOUT ℄

AFDB 1 AND 2 EACH HAVE
10 SECTIONS AS SHOWN
AFDB 3 HAS 9 SECTIONS
CONSISTING OF THE 2 END SECTIONS
AND 7 INTERMEDIATE SECTIONS

BALLAST COMPARTMENTS

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

AFDB-1 THROUGH AFDB-3

These are open-end, modified-sectional, self-docking steel docks capable of offshore operation. The AFDB-1 and AFDB-2 have ten sections each and the AFDB-3 has nine sections. The individual sections are towed to the operating site with the wing walls folded and are assembled there into the operating dock. The individual sections are not capable of independent operation.

NOMINAL LIFTING CAPACITY AFDB-1 and AFDB-2: 90,000 tons at 18-in. pontoon freeboard.
AFDB-3: 81,000 tons at 18-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING All battleships and cruisers, CVA 47 and smaller carriers, and all smaller vessels. AFDB-1 and AFDB-2 can dock all merchant ships up to and including the *Queen Mary*. AFDB-3 can dock all merchant ships up to but not including the *Queen Mary*.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 3′ 6″ long center keel blocks at 6′ 0″ centers, with 1′ 6″ high, 4′ 0″ wide, 3′ 6″ long blocks at 6′ 0″ centers resting on 2′ 6″ high pedestal blocks for bridging space between sections. Side keel blocks are 1′ 6″ high, 4′ 0″ wide, 3′ 6″ long at 6′ 0″ centers resting on 2′ 6″ high pedestal blocks, which can be located in proper transverse position to meet ship requirements. All keel blocks are concrete and timber composite.

BILGE BLOCKS Movable timber bilge blocks 4′ 0″ high, 4′ 0″ wide, 1′ 2″ long, spaced at 16′ 0″ centers for single and double dockings.

CRANES Two electric traveling portal cranes, one mounted on each wing wall. Each rated 30 tons at 35′ 0″ radius, 15 tons at 85′ 0″ radius, with auxiliary rated 5 tons at 105′ 0″ radius.

CAPSTANS AFDB-1: 10 capstans, nonreversible, one on each section on alternate wing walls, each rated 24,000-lb pull at 30 fpm.

AFDB-2: 6 capstans, one each on sections c, d, e, f, g, and h on alternate wing walls, rated 24,000-lb pull at 30 fpm; 4 capstans, reversible, one each on sections a, b, i, and j on alternate wing walls, rated 24,000-lb pull at 30 fpm and 6,000-lb pull at 120 fpm in the forward direction, and 6,000-lb pull at 120 fpm in the reverse direction.

AFDB-3: 9 capstans, nonreversible, one on each section on alternate wing walls, rated 24,000-lb pull at 30 fpm.

MOORING Five standard spread-mooring arrangements using 30,000-lb stockless steel anchors and 20,000-lb concrete sinkers with lines made up of 2¼″ wire rope and/or 2¼″ to 3½″ chain.

BALLAST COMPARTMENTS In the assembled operating condition there are 4 ballast compartments in each section, making a total of 40 compartments each for AFDB-1 and AFDB-2 and 36 compartments for AFDB-3. When the sections are disconnected, bulkhead closures are secured, and each section has 12 ballast compartments.

AFDB-1 THROUGH AFDB-3

CREW'S QUARTERS AFDB-1: 26 officers and 47 enlisted men.
AFDB-2: 31 officers and 544 enlisted men.
AFDB-3: 22 officers and 471 enlisted men.

SHOP FACILITIES One carpenter shop and two machine and electrical shops.

MAIN PUMPS Two 24-in discharge pumps on each section, each rated 15,000 gpm at 20-ft head.

ELECTRICAL

(a) *Power Requirements*

	AFDB-1 and AFDB-2		*AFDB-3*	
	Dewatering	*Ship repair*	*Dewatering*	*Ship repair*
Maximum demand	5,400 kva	6,100 kva	5,000 kva	6,100 kva
Normal demand	4,860 kva	4,880 kva	4,500 kva	4,880 kva
Power factor (estimated)	0.80	0.80	0.80	0.80

(b) *Power Generation*

Two 350-kw diesel-driven generators on each section producing 440-v, 3-ph, 60-cy, AC power.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power for dock equipment, shops, welding, and ship service.
120/208-v, 3-ph, 60-cy AC for galley, lighting, and convenience outlets.
120-v, single-phase, 60-cy AC for main pump motor and valve operator control systems.
110/220-v, 3-ph, 60-cy AC for ship service.
125/250-v DC for ship service furnished by two 300-kw rectifiers.

FUEL OIL Approx 65,000-gal main storage capacity in each section.

SALT WATER One fire pump rated 500 gpm at 150 psi on each section. Three circulating pumps rated 220 gpm at 35-ft head on each section. Two flushing service pumps rated 150 gpm at 50 psi on each section.

FRESH WATER One salt-water distilling plant rated 3,600 gal distilled water per 20-hr day on each section. Storage capacity per section: 5,000 gal normal and 51,000 gal emergency. Fill connections are provided for receiving water from shore.

COMPRESSED AIR One motor-driven compressor rated 315 cfm at 100 psi provided on each section.

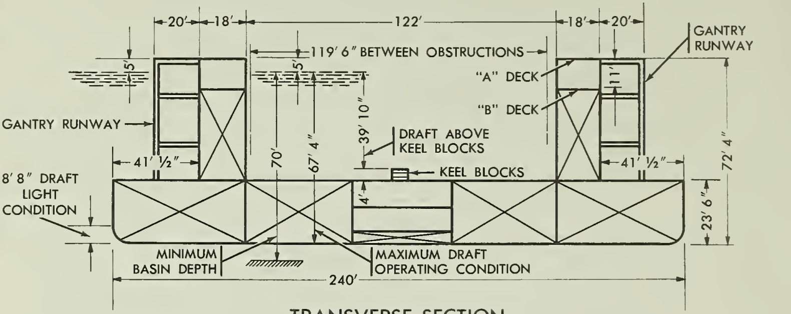
STEAM One 40-hp boiler on each section provides steam at 125 lb.

WATER LEVEL INDICATING SYSTEM Pneumatic bubbler type with 14 gages located in the machinery space of each section (1 for each of the 12 ballast compartments and 2 draft points). In addition, gages are located in the central control house for 2 ballast compartments in each section and for the 2 draft points in each end section (total of 24 gages each for the AFDB-1 and AFDB-2 and 22 gages for the AFDB-3 in the control house).

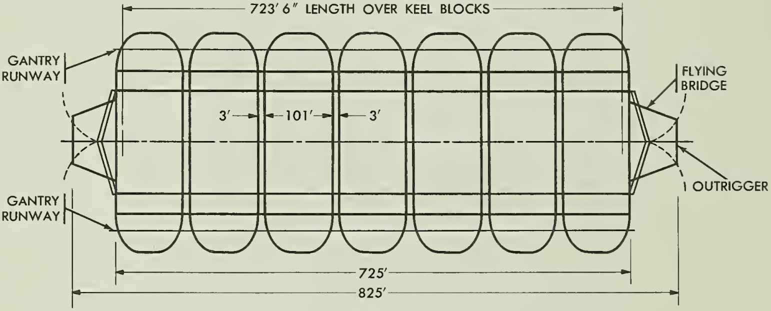
WELDING EQUIPMENT Ten 30-amp motor-generator welding sets on each dock: four 1,500-amp motor-generator welding sets on AFDB-1 and AFDB-2; and eight 750-amp motor-generator welding sets on AFDB-3.

SEWAGE DISPOSAL Sewage from ship discharged into 6-in. soil lines along inboard face of each wing wall with gravity discharge at each end of dock. Sewage from dock discharged into tanks and pumped overboard by sewage ejectors (1 per section), each rated 50 gpm at 29-ft head.

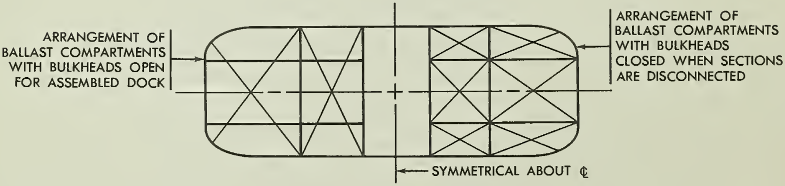
AFDB-4 THROUGH AFDB-7



TRANSVERSE SECTION



PLAN



ARRANGEMENT OF BALLAST COMPARTMENTS WITH BULKHEADS OPEN FOR ASSEMBLED DOCK
ARRANGEMENT OF BALLAST COMPARTMENTS WITH BULKHEADS CLOSED WHEN SECTIONS ARE DISCONNECTED
SYMMETRICAL ABOUT ℄

BALLAST COMPARTMENTS

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

AFDB-4 THROUGH AFDB-7

These are seven-section, open-end, modified-sectional, self-docking steel docks capable of offshore operation. The individual sections are towed to the operating site with the wing walls folded and are assembled there into the operating dock. The individual sections are not capable of independent operation.

NOMINAL LIFTING CAPACITY 55,000 tons at 18-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING All battleships except the *Iowa* class (*Iowa* in emergency only), certain carriers, all cruisers and smaller ships, and certain merchant ships.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 3′ 6″ long center keel blocks at 6′ 0″ centers, with 1′ 6″ high, 4′ 0″ wide, 3′ 6″ long blocks at 6′ 0″ centers resting on 2′ 6″ high pedestal blocks for bridging space between sections. Side keel blocks are 1′ 6″ high, 4′ 0″ wide, 3′ 6″ long at 6′ 0″ centers resting on 2′ 6″ high pedestal blocks, which can be located in proper transverse position to meet ship requirements. All keel blocks are concrete and timber composite.

BILGE BLOCKS Movable timber bilge blocks 4′ 0″ high, 4′ 0″ wide, 1′ 2″ long, spaced at 8′ 0″, 12′ 0″, and 16′ 0″ centers for single and double dockings.

CRANES Two electric traveling portal cranes mounted on runways. Each rated 30 tons at 35′ 0″ radius, 15 tons at 94′ 0″ radius, with auxiliary rated 5 tons at 107′ 0″ radius.

CAPSTANS AFDB-4: 3 capstans, nonreversible, 1 each on sections c, d, and e on alternate wing walls, rated 50,000-lb starting and 24,000-lb running pull at 30 fpm in the forward direction only. Four capstans, nonreversible, 1 each on sections a, b, f, and g on alternate wing walls rated 50,000-lb starting and 24,000-lb running pull at 30 fpm, and 6,000-lb pull at 120 fpm in the forward direction and 6,000-lb pull at 120 fpm in the reverse direction.

AFDB-5, AFDB-6, and AFDB-7: 7 capstans, 1 on each section on alternate wing walls, rated 50,000-lb starting and 24,000-lb running pull at 30 fpm in the forward direction only.

MOORING Spread-mooring arrangement using 28 legs comprised of 30,000-lb Navy standard stockless anchors, 120 fathoms of 3″ cast-steel stud link chain, and 20,000-lb concrete sinkers.

BALLAST COMPARTMENTS In the assembled operating condition there are 28 ballast compartments, 4 in each section. When the sections are disconnected, bulkhead closures are secured, and each section has 12 ballast compartments.

CREW'S QUARTERS AFDB-4: towing and watch crew consists of 1 officer and 12 enlisted men for each section.

AFDB-5, AFDB-6, and AFDB-7: approximately 30 officers and 450 enlisted men.

SHOP FACILITIES One carpenter shop and one machine and electrical shop.

MAIN PUMPS Two 24-in. discharge pumps on each section, each rated 15,000 gpm at 37-ft dynamic head or 20,000 gpm at 20-ft head.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Maximum demand	4,200 kva	6,000 kva
Normal demand	3,800 kva	4,800 kva
Power factor (estimated)	0.80	0.80

(b) *Power Generation*

AFDB-4, AFDB-6, and AFDB-7: two 350-kw diesel-driven generators on each section producing 440-v, 3-ph, 60-cy, AC power. Total generating capacity approximately 4,900 kw.

AFDB-5: two 330-kw diesel-driven generators on each section producing 440-v, 3-ph, 60-cy, AC power. Total generating capacity approximately 4,600 kw.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power for dock equipment, shops, welding, and ship service.
110/220-v, 3-ph, 60-cy AC for ship service.
120/208-v, 3-ph, 60-cy AC for galley, lighting, and convenience outlets.
125/250-v DC furnished by two 300-kw motor-generator sets for ship service.
120-v, single-phase, 60-cy AC for valve operator control system.
440-v, single-phase, 60-cy AC for main pump motor control system.

FUEL OIL CAPACITY Approximately 60,000-gal main storage in each section.

SALT WATER Seven fire pumps, each rated 500 gpm at 150 psi. Twenty-one service pumps, each rated 220 gpm at 15 psi. Fourteen service pumps, each rated 75 gpm at 50 psi.

FRESH WATER One 5,000-gpd (250 gph for 20 hr)distilling plant on each section. Normal storage capacity on each section 5,000 gal with an additional 94,000-gal capacity for emergency use only. One 4-in. filling connection on each wing wall of each section.

COMPRESSED AIR Nine motor-driven compressors, each rated 315 cfm at 100 psi, one located in each section. One additional compressor located in sections c and e.

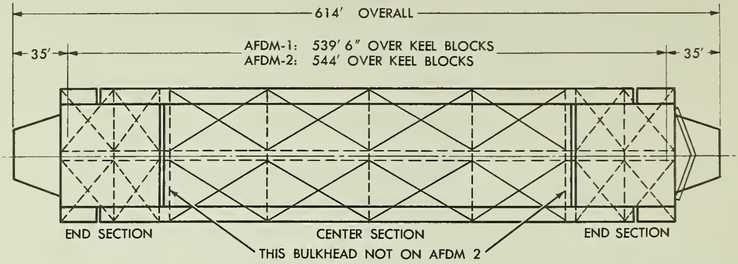
STEAM One 50-hp oil-fired boiler in each section.

WATER LEVEL INDICATING SYSTEM Pneumatic bubbler type with 14 gages located in the machinery space of each section (1 for each of the 12 ballast compartments and 2 draft points). In addition, 18 gages are located in the central control house for 2 ballast compartments in each section and for the 2 draft points of each end section.

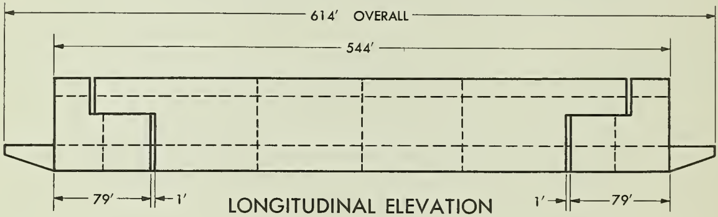
WELDING EQUIPMENT Eight 750-amp motor-generator welding sets. Seven 300-amp motor-generator welding sets.

SEWAGE DISPOSAL SYSTEM Sewage from ship discharged into 6-in. soil lines along inboard face of each wing wall with gravity discharge at each end of dock. Sewage from dock discharged into tanks and pumped overboard with 14 (2 per section) motor-driven duplex ejectors, each rated 50 gpm at 29-ft head.

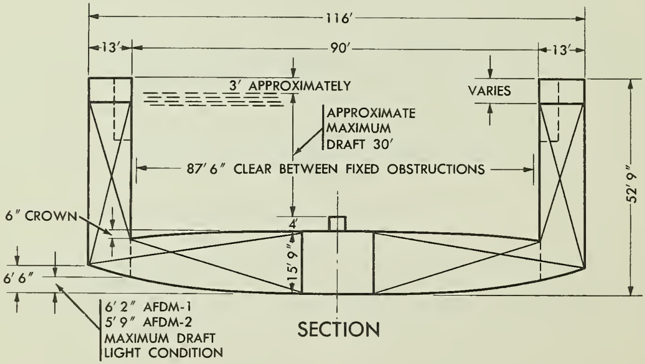
AFDM-1 AND AFDM-2


614′ OVERALL
35′
AFDM-1: 539′ 6″ OVER KEEL BLOCKS
AFDM-2: 544′ OVER KEEL BLOCKS
35′
END SECTION
CENTER SECTION
END SECTION
THIS BULKHEAD NOT ON AFDM 2

PLAN



LONGITUDINAL ELEVATION



SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

AFDM-1 AND AFDM-2

These are three-piece, self-docking, open-end steel docks capable of operation both offshore and at a pier. They are towed at sea with the end sections stowed within the center section.

NOMINAL LIFTING CAPACITY 15,000 tons at 12-in. pontoon deck freeboard.

SUITABLE IN GENERAL FOR DOCKING CA, CL, CVE (limited), and smaller craft.

KEEL BLOCKS AFDM-1: 3′ 10″ high, 5′ 10″ wide, 3′ 6″ long, spaced 6′ 0″ c to c.
AFDM-2: 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long, spaced 4′ 0″ c to c.

BILGE BLOCKS AFDM-1: 3′ 8″ high, 4′ 0″ wide, 1′ 0″ long, spaced 16′ 0″ c to c.
AFDM-2: 3′ 4″ high, 4′ 0″ wide, 1′ 0″ long, spaced 8′ 0″ and 16′ 0″ c to c.

CRANES Two electric traveling portal cranes, 1 mounted on each wing wall, rated 7½ tons at 57′ 0″ radius with auxiliary rated 5 tons at 75′ 0″ radius.

CAPSTANS Eight motor-operated nonreversible capstans, 4 on each wing wall, rated 10,000-lb pull at 30 fpm.

MOORING Eight mooring spuds and brackets on the A side. AFDM-1 also has 10 mooring staples for use with anchor and chain mooring when required.

BALLAST COMPARTMENTS There are 16 main ballast compartments, 8 in the center section and 4 in each end section. The AFDM-1 has a collision bulkhead in each end of the center section, thus providing 4 additional compartments for towing; the valves in these bulkheads must be opened for dock operation.

CREW'S QUARTERS AFDM-1: for 1 officer and 12 enlisted men.
AFDM-2: none installed but space is available.

SHOP FACILITIES None provided.

MAIN PUMPS Four 30-in. discharge pumps in center section, each rated 29,000 gpm at 14-ft head and 21,600 gpm at 27-ft head; two 18-in. discharge pumps in each end section, each rated 12,200 gpm at 12-ft head and 7,500 gpm at 27-ft head.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Total demand	1,350 kva	630 kva
Normal demand	1,210 kva	500 kva
Power factor (estimated)	0.80	0.80

(b) *Power Generation*

Four 250-kw diesel-driven generators for 440-v, 3-ph, 60-cy, AC power; auxiliary power of same characteristics furnished by one 50-kw unit on AFDM-1 and one 10-kw unit on AFDM-2.

(c) *Distribution System*

440-v, 3-ph, 60-cy AC for dock equipment.
120/208-v, 3-ph, 60-cy AC for floodlighting.
110-v, single-phase, 60-cy AC for lighting.
Connections for obtaining 440-v, 3-ph, 60-cy, AC power from shore.

FUEL OIL AFDM-1: 11,500-gal storage capacity.
AFDM-2: 15,000-gal storage capacity.

SALT WATER Two combination fire pumps, each rated 300 gpm at 100 psi; 4-in. outlet provided for obtaining salt water from the yard system.

FRESH WATER Shore connection provided on each dock; storage capacity of 1,200 gal for AFDM-1 and 600 gal for AFDM-2.

COMPRESSED AIR Two motor-driven air compressors, each rated 500 cfm at 105 psi; connections provided for shore supply.

STEAM AFDM-1: shore connection provided for shore supply.
AFDM-2: none.

HEATING AFDM-1: 4 oil-fired hot air furnaces.
AFDM-2: no heating provided.

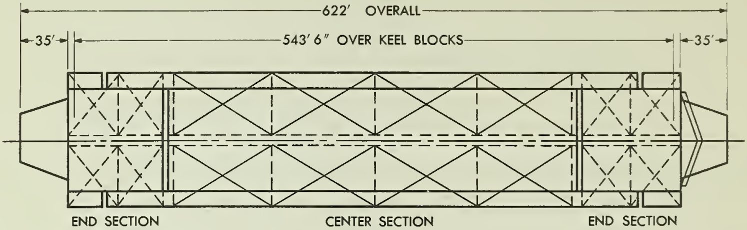
WATER LEVEL INDICATING SYSTEM AFDM-1: closed pneumatic system with indicators located in the control house for all ballast compartments and a draft point at each end of the dock.
AFDM-2: pneumatic bubbler system with indicators located in the control house for all ballast compartments and the two draft points.

WELDING EQUIPMENT 440-v, 3-ph, 60-cy, AC welding outlets are provided but no welding equipment is furnished.

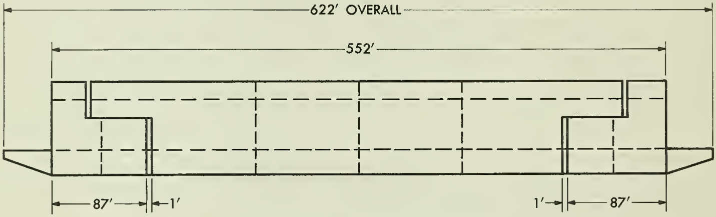
OXYGEN AND ACETYLENE AFDM-1: has oxygen and acetylene system with outlets on the inboard face of each wing wall.
AFDM-2: no installation.

SEWAGE DISPOSAL Ship sewage is discharged overboard using ship's lines; dock sewage on the AFDM-1 is also discharged overboard; no dock sewage system on the AFDM-2.

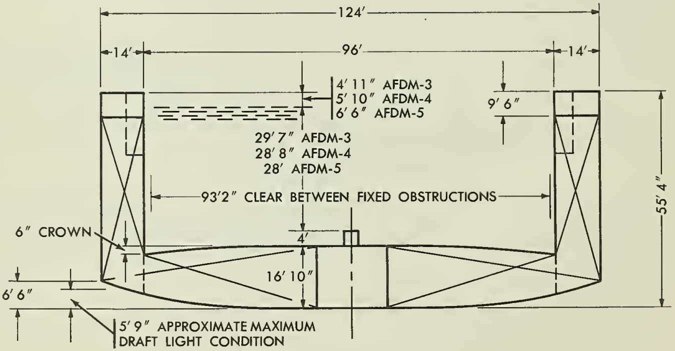
AFDM-3 THROUGH AFDM-5



PLAN



LONGITUDINAL ELEVATION



SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

AFDM-3 THROUGH AFDM-5

These are three-piece, self-docking, open-end steel docks capable of operation both offshore and at a pier. They are towed at sea with the end sections stowed within the center sections.

NOMINAL LIFTING CAPACITY AFDM-3: 18,000 tons at 9-in. pontoon freeboard.
AFDM-4 and AFDM-5: 18,000 tons at 18-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING CA, CL, CVE (limited), and smaller ships.

KEEL BLOCKS Composite timber and concrete spaced 6′ 0″ c to c.
AFDM-3: 4′ 0″ high, 4′ 0″ wide, 3′ 6″ long.
AFDM-4: 4′ 0″ high, 5′ 6″ wide, 3′ 6″ long.
AFDM-5: 4′ 6″ high, 5′ 6″ wide, 3′ 6″ long.

BILGE BLOCKS 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long.
AFDM-3: spaced 8′ 0″ c to c throughout.
AFDM-4 and AFDM-5: spaced 8′ 0″ c to c on center portion and 16′ 0″ c to c on end portions.

CRANES Two electric traveling portal cranes, 1 mounted on each wing wall, rated 7½ tons at 60′ 6″ radius.

CAPSTANS AFDM-3: 4 two-speed, reversible, motor-operated capstans, 1 near each end of each wing wall, rated 15,000 lb at 40 fpm and 4,000 lb at 80 fpm.
AFDM-4: 4 motor-operated capstans, 1 near each end of each wing wall, rated 10,000 lb at 30 fpm forward only; 8 hand capstans, 4 on each wing wall.
AFDM-5: 8 motor-operated capstans, 4 on each wing wall, rated 10,000 lb at 30 fpm forward only.

MOORING Eight mooring spuds and brackets located on A side; 5 mooring staples provided on the outboard face of each wing wall for use with anchor and chain if required.

BALLAST COMPARTMENTS There are 16 main ballast compartments, 8 in the center section and 4 in each end section. There is also a collision bulkhead in each end of the center section, and the valves in these must remain closed during towing and open during dock operations. On AFDM-3 and AFDM-5 only, there are, in addition, 2 trimming tanks, 1 in each end of the center section buoyancy compartment, which aid in trimming the dock and providing greater dock submergence (for emergency dockings only).

CREW'S QUARTERS AFDM-3: 3 officers and 12 enlisted men.
AFDM-4 and AFDM-5: 1 officer and 12 enlisted men.

SHOP FACILITIES AFDM-3: electrical and machine shops for dock maintenance.
AFDM-4 and AFDM-5: none provided.

MAIN PUMPS Four 30-in. discharge pumps, each rated 29,000 gpm at 14-ft head and 21,600 gpm at 27-ft head; four 20-in. discharge pumps, each rated 15,000 gpm at 12-ft head and 9,500 gpm at 27-ft head.

AFDM-3 THROUGH AFDM-5

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Total demand	1,440 kva	1,660 kva
Normal demand	1,300 kva	1,330 kva
Power factor (estimated)	0.80	0.80

(b) *Power Generation*

Four 330-kw diesel-driven generators for 440-v, 3-ph, 60-cy, AC power and one 50-kw diesel-driven auxiliary generator for 120/208-v, 3-ph, 60-cy, AC power.

(c) *Distribution System*

440-v, 3-ph, 60-cy AC for dock equipment, shops, welding, and ship service.
110/220-v, 3-ph, 60-cy AC for ship service.
120/208-v, 3-ph, 60-cy AC for lighting.
110/220-v DC for ship service furnished by a 300-kw motor generator.
Provision is also made for obtaining 440-v, 3-ph, 60-cy, AC power from shore.

FUEL OIL Storage capacity for 32,000 gal.

SALT WATER Eight supply pumps, rated 300 gpm each for AFDM-3 and 400 gpm each for AFDM-4 and AFDM-5 at 25 psi; 2 fire and service pumps, each rated 300 gpm at 100 psi; 4 circulating pumps, each rated 220 gpm at 15 psi; connections provided for obtaining salt water from shore.

FRESH WATER AFDM-3: salt-water distilling plant, rated 1,600 gpd (80 gph for 20 hr); storage capacity approximately 10,000 gal.
AFDM-4 and AFDM-5: storage capacity of 3,000 gal. Shore connections provided on all docks.

COMPRESSED AIR Two motor-driven compressors, rated 500 cfm at 125 psi; shore connections also provided.

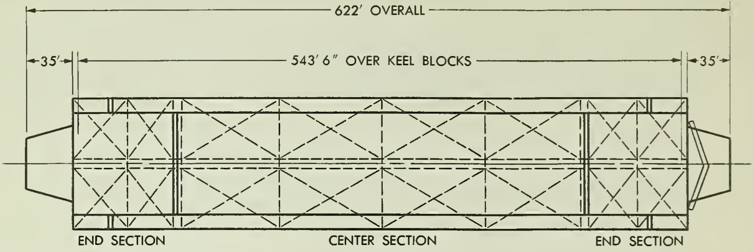
STEAM AFDM-3: one 40-hp boiler provides steam at 125 psi.
AFDM-4 and AFDM-5: 4 boilers provide a total of 8,000 lb of steam at 125 psi. Shore connections provided on all docks.

WATER LEVEL INDICATING SYSTEM AFDM-3: pneumatic bubbler system with mercury column gages in the control house, 1 for each main ballast compartment and 1 for each of the 2 draft measuring points.
AFDM-4 and AFDM-5: closed pneumatic system with readings electrically transmitted to dial gages in the control house, 1 for each main ballast compartment and 1 for each of the 2 draft measuring points.

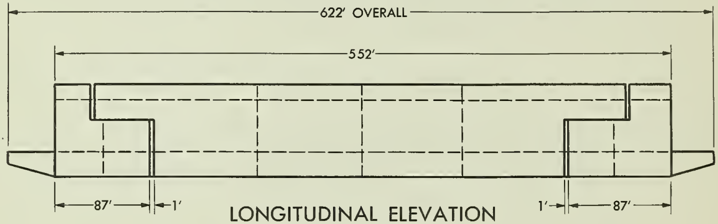
WELDING EQUIPMENT Outlets provided for use with welding equipment, but no welding equipment provided.

SEWAGE DISPOSAL Sewage from the ship in dock is discharged overboard by gravity using sewage line on inboard face of each wing wall; dock sewage is discharged overboard by gravity.

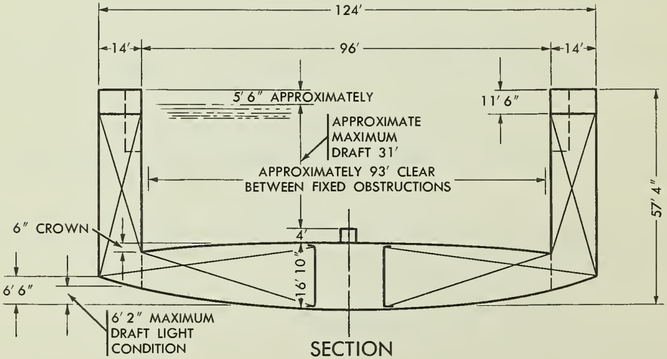
AFDM-6 THROUGH AFDM-10



PLAN



LONGITUDINAL ELEVATION


124′
14′
96′
14′
5′ 6″ APPROXIMATELY
11′ 6″
APPROXIMATE MAXIMUM DRAFT 31′
APPROXIMATELY 93′ CLEAR BETWEEN FIXED OBSTRUCTIONS
57′ 4″
6″ CROWN
4′
16′ 10″
6′ 6″
6′ 2″ MAXIMUM DRAFT LIGHT CONDITION

SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

AFDM-6 THROUGH AFDM-10

These are three-piece, self-docking, open-end steel docks capable of operation both offshore and at a pier. They are towed at sea with the end sections stowed within the center sections.

NOMINAL LIFTING CAPACITY 18,000 tons at 7-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING CA, CL, CVE (limited), and smaller ships.

KEEL BLOCKS 4′ 0″ high, 5′ 6″ wide, 3′ 6″ long composite timber and concrete blocks, spaced 6′ 0″ c to c, standard on all these docks and installed on AFDM-6, AFDM-8, and AFDM-10. AFDM-7 and AFDM-9 have 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long timber blocks, spaced 4′ 0″ c to c.

BILGE BLOCKS 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long, spaced 8′ 0″ c to c.

CRANES Two electric traveling portal cranes, 1 mounted on each wing wall. AFDM-6 rated 7½ tons at 60′ 6″ radius and auxiliary hoist rated 5 tons at 75′ 0″ radius. AFDM-7, AFDM-8, AFDM-9, and AFDM-10 rated 7½ tons at 65′ 0″ radius, no auxiliary.

CAPSTANS AFDM-6 and AFDM-7: 4 motor-operated, 2-speed, reversible capstans, 1 near each end of each wing wall, rated 15,000 lb at 40 fpm and 7,500 lb at 80 fpm; 4 motor-operated, single-speed, reversible capstans, 2 on each wing wall, rated 10,000 lb at 30 fpm.

AFDM-8, AFDM-9, and AFDM-10: eight 2-speed, reversible capstans, 4 on each wing wall, rated 15,000 lb at 40 fpm and 7,500 lb at 80 fpm.

MOORING Eight mooring spuds and brackets located on A side; 4 mooring staples provided on the outboard face of each wing wall for use with anchor and chain if required.

BALLAST COMPARTMENTS There are 16 main ballast compartments, 8 in the center section and 4 in each end section. Two trimming tanks, 1 in each end of the center section buoyancy compartment, aid in trimming the dock and in providing greater dock submergence (for emergency dockings only). There is also a collision bulkhead in each end of the center section, and the valves in these must remain open during dock operations and closed during tow.

CREW'S QUARTERS Quarters for 5 officers, 6 CPO's, and 72 enlisted men. Equipment not installed on AFDM-6.

SHOP FACILITIES Machine and electrical shops.

MAIN PUMPS Four 30-in. discharge pumps, each rated 29,000 gpm at 14-ft head and 21,600 gpm at 27-ft head; four 20-in. discharge pumps, each rated 14,000 gpm at 12-ft and 9,500 gpm at 27-ft head.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Total demand	1,630 kva	2,020 kva
Normal demand	1,387 kva	1,410 kva
Power factor (estimated)	0.80	0.80

(b) *Power Generation*

Four 330-kw diesel-driven generators for 440-v, 3-ph, 60-cy, AC power and one 150-kw diesel-driven auxiliary generator for 440-v, 3-ph, 60-cy, AC power.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power for dock equipment, shops, welding, and ship service.
120/240-v, 3-ph, 60-cy AC for ship service.
125/250-v DC for ship service furnished by a 300-kw motor generator.
120/208-v, 3-ph, 60-cy AC for lighting, galley, and so on.
Provision is also made for obtaining 440-v, 3-ph, 60-cy, AC power from shore.

FUEL OIL Storage capacity for 72,000 gal.

SALT WATER AFDM-6: 8 supply pumps, each rated 400 gpm at 25 psi; 4 fire and service pumps, each rated 300 gpm at 100 psi; 6 circulating pumps, each rated 220 gpm at 15 psi; connections provided for obtaining salt water from shore.

AFDM-7, AFDM-8, AFDM-9, and AFDM-10: 8 supply pumps, each rated 500 gpm at 25 psi; 4 fire and service pumps, each rated 500 gpm at 100 psi; 6 circulating pumps, each rated 220 gpm at 15 psi; connections provided for obtaining salt water from shore.

FRESH WATER Three salt-water distilling plants on each dock, each rated 5,000 gpd (250 gph for 20 hr); storage capacity of approximately 10,000 gal and shore connections also provided.

COMPRESSED AIR AFDM-6: 2 motor-driven compressors, 1 rated 500 cfm and 1 rated 650 cfm at 125 psi; shore connections also provided.

AFDM-7, AFDM-8, AFDM-9, and AFDM-10: 2 motor-driven compressors, each rated 650 cfm at 125 psi; shore connections also provided.

STEAM Three 80-hp boilers provide steam at 40 psi.

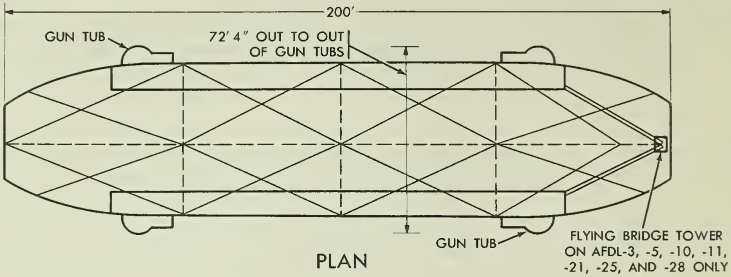
WATER LEVEL INDICATING SYSTEM AFDM-6: pneumatic bubbler system with electric transmission to gages in the control house, 1 for each main ballast compartment and 1 for each of the 8 draft measuring points.

AFDM-7, AFDM-8, AFDM-9, and AFDM-10: pneumatic open-bell blowdown systems with mercury column gages in the control house, 1 for each main ballast compartment and 1 for each of the 8 draft measuring points.

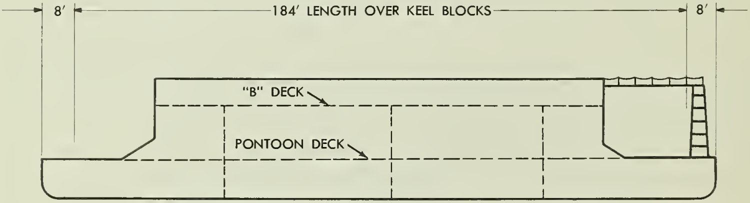
WELDING EQUIPMENT Outlets provided for use with welding equipment, but no welding equipment provided.

SEWAGE DISPOSAL Sewage from the ship in dock is discharged overboard by gravity using sewage line on inboard face of each wing wall. Dock sewage is discharged overboard by gravity.

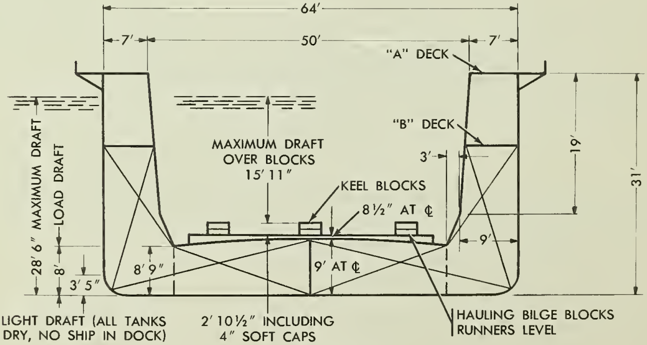
AFDL-1 THROUGH AFDL-6, AFDL-8 THROUGH AFDL-12, AFDL-15 THROUGH AFDL-21, AFDL- 25 THROUGH AFDL-31


200′
GUN TUB
72′ 4″ OUT TO OUT OF GUN TUBS
GUN TUB
FLYING BRIDGE TOWER ON AFDL-3, -5, -10, -11, -21, -25, AND -28 ONLY

PLAN



LONGITUDINAL ELEVATION


64′
7′
50′
7′
"A" DECK
"B" DECK
MAXIMUM DRAFT OVER BLOCKS 15′ 11″
3′
19′
31′
KEEL BLOCKS
8½″ AT ℄
9′
28′ 6″ MAXIMUM DRAFT
LOAD DRAFT
8′
3′ 5″
8′ 9″
9′ AT ℄
LIGHT DRAFT (ALL TANKS DRY, NO SHIP IN DOCK)
2′ 10½″ INCLUDING 4″ SOFT CAPS
HAULING BILGE BLOCKS RUNNERS LEVEL

SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

AFDL-1 THROUGH AFDL-6, AFDL-8 THROUGH AFDL-12, AFDL-15 THROUGH AFDL-21, AND AFDL-25 THROUGH AFDL-31

These are one-piece, open-end steel docks. They are capable of being towed at sea and are suitable for operation both offshore and at a pier.

NOMINAL LIFTING CAPACITY 1,000 tons at 12-in. freeboard.

SUITABLE IN GENERAL FOR DOCKING AN, AM, ATR, PC, and so on.

SEA TOW All are designed for sea tow. None have rudders. AFDL-18, AFDL-19, AFDL-20, AFDL-21, AFDL-25, AFDL-26, AFDL-27, AFDL-28, and AFDL-29 are equipped with skegs.

KEEL BLOCKS Forty-seven oak keel blocks 3′ 0″ wide, 1′ 0″ long, 3′ 7″ high above pontoon deck at dock centerline (height includes 4-in. softwood caps), spaced 4′ 0″ c to c; blocking is cribbed at four points.

BILGE BLOCKS Thirty-four hauling bilge blocks, 3′ 0″ wide, 1′ 0″ long, 3′ 7″ high above elevation of pontoon deck at dock centerline (height includes 4-in. softwood caps), spaced 8′ 0″ c to c; bilge-block runners are level and 8½ in. above elevation of pontoon deck at dock centerline.

DERRICKS Two hand-powered, 6,000-lb capacity, demountable stiffleg derricks. Mounting pads on A deck amidships and near ends of wing walls provide three optional locations for each derrick.

CAPSTANS Four capstans, nonreversible (2 on each wing wall), rated 5,000 lb at 25 fpm, powered by 440-v AC motors.

MOORING Mooring staples on each side for attaching spread-mooring anchors. Three mooring spuds for mooring alongside a pier. Spud brackets both port and starboard for optional location of spuds. Portable anchor billboards on pontoon deck for lashing emergency anchors during tow (one 6,000-lb bow anchor and one 3,000-lb stern anchor).

BALLAST COMPARTMENTS Eight compartments (4 each side of pontoon centerline bulkhead). Each compartment combines the adjacent pontoon and wing tanks. One pump normally serves each compartment, but equalizing valves are installed in transverse compartment bulkheads so that each pump can also serve the adjacent compartment in emergency.

CREW'S QUARTERS None.

SHOP FACILITIES Shop in wing wall equipped with engine lathe, drill press, bench grinder, hacksaw, arbor press, and bandsaw.

MAIN PUMPS Eight 8-in. volute pumps, each rated 2,000 gpm at 20-ft head.

AFDL-1 THROUGH AFDL-6, AFDL-8 THROUGH AFDL-12, AFDL-15 THROUGH AFDL-21, AND AFDL-25 THROUGH AFDL-31

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Maximum demand	207 kva	172 kva
Normal demand	193 kva	147 kva
Power factor (estimated)	0.75	0.75

(b) *Power Generation*

Two 100-kw, 480-v, 3-ph, 60-cy, AC, diesel-driven generators, air started.
One 25-kw, 480-v, 3-ph, 60-cy, AC, diesel-driven generator, battery started. (This unit not on AFDL-31.)
Additional for AFDL-1, AFDL-3, AFDL-5, AFDL-6, AFDL-10, AFDL-11, AFDL-17, AFDL-18, AFDL-20, AFDL-21, AFDL-28, and AFDL-30: one 25-kw, 125-v, DC, diesel-driven generator, battery started.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power circuits for dock, with basin outlets for ship service, operation of portable welding motor-generator sets, and so on.
120-v, single-phase, 60-cy, AC circuits for general dock lighting and small service, with outlets for ship service.
125-v, DC outlet for ship service on those docks equipped with DC generator.

(d) *Shore Connections*

One 400-amp, 440-v, 3-pole receptacle on A deck, starboard, amidships.

FUEL OIL Two tanks, 3,100 gal each.

SALT WATER Salt-water fire mains supplied from one 400-gpm, 100-psi sea pump. Salt-water service mains (for flushing, diesel cooling, and evaporator supply) supplied from one 200-gpm, 40-psi sea pump. Service main and fire main cross-connected through a check valve to maintain 40 psi pressure in fire main when fire pump is not running. Valved cross-connections are also provided so that service main can be supplied from fire pump in emergency.

FRESH WATER One 800-gpd salt-water distilling plant with self-contained oil-fired boiler, two 3,100-gal fresh-water storage tanks, and pneumatic pressure distribution system (45 to 20 psi). Distilling-plant salt water supplied from salt-water service system. A 1½-in. fresh-water fill connection is provided on starboard side amidships near A-deck level.

COMPRESSED AIR Service mains with outlets in dock basin supplied from a 230-cfm, 100-psi, motor-driven compressor. Diesel starting air is supplied by a 12-cfm, 250-psi compressor.

STEAM One oil-fired boiler rated 1,000 lb per hr at 50 psi supplies steam to unit heaters and to duct heaters in the ventilation system.

AFDL-1 THROUGH AFDL-6, AFDL-8 THROUGH AFDL-12, AFDL-15 THROUGH AFDL-21, AND AFDL-25 THROUGH AFDL-31

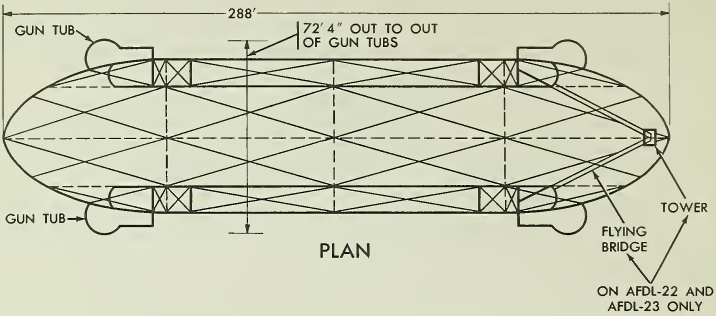
WATER LEVEL INDICATING SYSTEM Pneumatic transmission, closed system (using diaphragms in tanks), on AFDL-1, AFDL-2, AFDL-3, AFDL-4, AFDL-5, AFDL-6, AFDL-8, AFDL-9, AFDL-10, AFDL-11, AFDL-12, AFDL-15, AFDL-16, AFDL-17, AFDL-18, AFDL-19, AFDL-20, and AFDL-21.

Pneumatic transmission, open system (using open air bells in tanks), on AFDL-25, AFDL-26, AFDL-27, AFDL-28, AFDL-29, AFDL-30, and AFDL-31.
Indicating gages are located on B deck, port, amidships or on A deck immediately above.

SEWAGE DISPOSAL SYSTEM Sewage from ship discharged overboard by gravity through basin scuppers. Sewage from dock discharged overboard by compressed air ejector.

WELDING SYSTEM No equipment or outlets provided.

AFDL-7, AFDL-22, AFDL-23, AND AFDL-33



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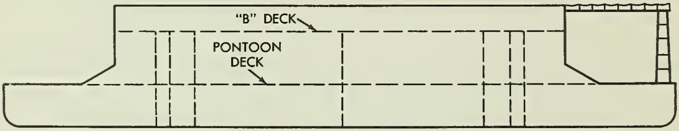
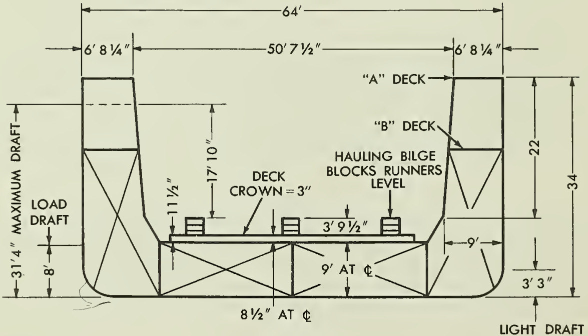


LONGITUDINAL ELEVATION



SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

AFDL-7, AFDL-22, AFDL-23, AND AFDL-33

These are one-piece, open-end steel docks. They are capable of being towed at sea and are suitable for operation both offshore and at a pier.

NOMINAL LIFTING CAPACITY 1,900 tons at 12-in. freeboard.

SUITABLE IN GENERAL FOR DOCKING AN, AM, ATR, PC, DE, and SS.

SEA TOW All designed for sea tow and equipped with skegs.

KEEL BLOCKS Sixty-nine oak keel blocks 3′ 0″ wide, 1′ 0″ long, 4′ 6″ high above pontoon deck at dock centerline (height includes 4-in. softwood caps), spaced 4′ 0″ c to c; blocking is cribbed for 75 ft at each end of dock.

BILGE BLOCKS Fifty-six hauling bilge blocks, 3′ 0″ wide, 1′ 0″ long, 4′ 6″ high above elevation of the pontoon deck at dock centerline (height includes 12-in. softwood caps), spaced 8′ 0″ c to c; bilge-block runners are level and 8½ in. above elevation of pontoon deck at dock centerline.

DERRICKS Two hand-powered, 6,000-lb capacity, demountable stiffleg derricks. Mounting pads on A deck provide two optional locations for each derrick.

CAPSTANS Four capstans, nonreversible (2 on each wing wall), rated 5,000-lb pull at 25 fpm, powered by 440-v AC motors.

MOORING Mooring staples on each side for attaching spread-mooring anchors. Five mooring spuds for mooring alongside a pier. Spud brackets both port and starboard for optional location of spuds. Portable anchor billboards on pontoon deck for lashing emergency anchors during tow (one 6,000-lb bow anchor and one 3,000-lb stern anchor).

BALLAST COMPARTMENTS Wing tanks, 4 port, 4 starboard. Pontoon tanks, 4 port, 4 starboard.

CREW'S QUARTERS Quarters for 1 officer and 24 enlisted men on AFDL-22. Quarters for 1 officer and 37 enlisted men on AFDL-7, AFDL-23, AFDL-33.

SHOP FACILITIES On AFDL-7 and AFDL-33 only: shop in wing wall equipped with engine lathe, drill press, bench grinder, hacksaw, arbor press, and bandsaw.

MAIN PUMPS Twelve 8-in. volute pumps, each rated 2,000 gpm at 20-ft head.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Maximum demand	292 kva	382 kva
Normal demand	274 kva	317 kva
Power factor (estimated)	0.75	0.75

(b) *Power Generation*

Three 100-kw, 480-v, 3-ph, 60-cy, AC, diesel-driven generators, air started.
One 80-kw, 125/250-v, DC motor-generator set.
One 50-kw, 480-v, 3-ph, 60-cy, AC, diesel-driven generator on AFDL-7, AFDL-22, and AFDL-23 only.
One 25-kw, 480-v, 3-ph, 60-cy, AC, diesel-driven generator, battery started, on AFDL-33 only.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power circuits for dock, with basin outlets for ship service, operation of portable welding motor-generator sets, and so on.
220-v, 3-ph, 60-cy, AC circuits for power tools, with outlet for ship service.
120-v, single-phase, 60-cy, AC circuits for general dock lighting and small service, with outlets for ship service.
125/250-v DC outlet for ship service.

(d) *Shore Connections*

One 400-amp, 440-v, 3-pole receptacle on A deck, starboard.

FUEL OIL Two tanks, 3,750 gal each.

SALT WATER Salt-water fire mains supplied from one 400-gpm, 100-psi sea pump. Salt-water service mains (for flushing, diesel cooling, and evaporator supply) supplied from one 200-gpm, 40-psi and one 50-gpm, 40-psi sea pump. Service main and fire main cross-connected through a check valve to maintain 40 psi pressure in fire main when fire pump is not running. Valved cross-connections are also provided so that service main can be supplied from fire pump in emergency.

FRESH WATER One 800-gpd salt-water distilling plant with self-contained oil-fired boiler, two 3,900-gal fresh-water storage tanks, and pneumatic pressure distribution system (45 to 20 psi). Distilling-plant salt water supplied from salt-water service system. A 1½-in. fresh-water fill connection is provided on starboard side amidships near A-deck level.

COMPRESSED AIR Service mains with outlets in dock basin supplied from a 230-cfm, 100-psi, motor-driven compressor. Diesel starting air is supplied by a 12-cfm, 250-psi compressor.

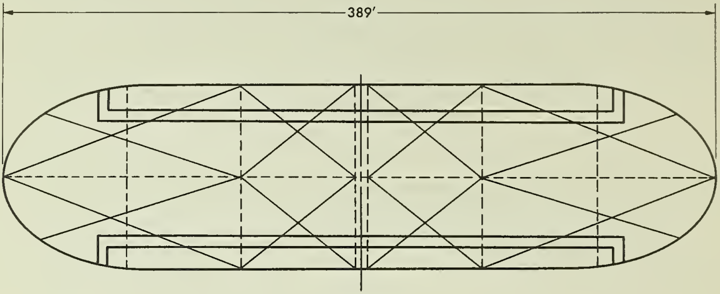
STEAM One oil-fired boiler rated 1,000 lb per hr at 50 psi supplies steam to unit heaters and to duct heaters in the ventilation system.

WATER LEVEL INDICATING SYSTEM Pneumatic transmission, closed system (using diaphragms in tanks), on AFDL-22 and AFDL-23.
Pneumatic transmission, open system (using open air bells in tanks), on AFDL-7 and AFDL-33.
Indicating gages are located on A deck, port, near midship.

SEWAGE DISPOSAL SYSTEM Sewage from ship discharged overboard by gravity through basin scuppers. Sewage from dock discharged overboard by compressed air ejector.

WELDING SYSTEM No equipment or outlets provided.

AFDL-35 AND AFDL-37 THROUGH AFDL-45



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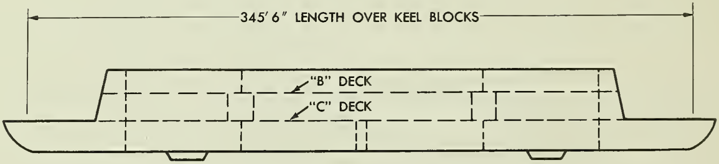
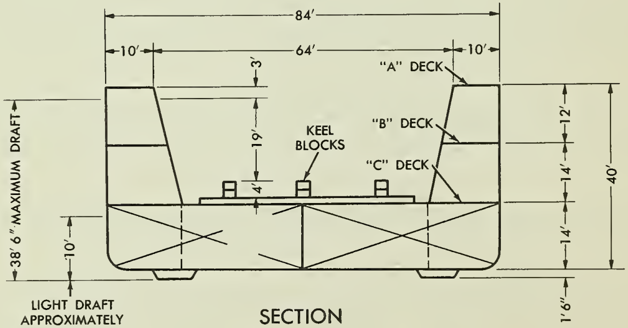


LONGITUDINAL ELEVATION



SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

AFDL-35 AND AFDL-37 THROUGH AFDL-45

These are one-piece, open-end concrete docks capable of being towed at sea.

AFDL-35, AFDL-37, AFDL-40, and AFDL-41 are outfitted for operation both as yard docks moored at a pier and as overseas docks moored offshore.

AFDL-38, AFDL-39, AFDL-42, AFDL-43, AFDL-44, and AFDL-45 are in general equipped only as yard docks moored at a pier where shore sources of power, air, and so on, are available, but they are designed for installation of equipment to enable them to operate as offshore docks.

NOMINAL LIFTING CAPACITY 2,800 tons at 12-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING DD, LST, SS, and similar craft up to 2,800 tons displacement.

KEEL BLOCKS 4′ 0″ high, 4′ 8″ wide, 3′ 6″ long, spaced 6′ 0″ c to c.

BILGE BLOCKS 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long, spaced 12′ 0″ c to c; provision is made for installing fixed side blocks 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long, spaced 12′ 0″ c to c for LST's.

CRANES Two electric traveling portal cranes, mounted one on each wing wall, rated approximately 4½ tons at 42′ 0″ radius.

CAPSTANS Four motor-operated, two-speed reversible capstans, one near each end of each wing wall, rated 12,000 lb at 15 fpm and 6,000 lb at 30 fpm. Four hand-operated capstans, two on each wing wall, rated 10,000 lb.

MOORING Five mooring spuds with brackets provided for mooring either side of the dock to a pier. Five mooring staples are provided on each side of dock for offshore mooring with anchors and chain.

BALLAST COMPARTMENTS Twelve ballast compartments are provided, 6 starboard and 6 port. The end compartments are connected by valves to the adjoining compartments, making 8 main compartments during operation.

CREW'S QUARTERS AFDL-35 and AFDL-37: 5 officers, 6 CPO's, and 105 enlisted men.
AFDL-38, AFDL-39, AFDL-41, AFDL-42, AFDL-43, AFDL-44, and AFDL-45: space is provided for installing equipment for 5 officers, 6 CPO's, and 105 enlisted men. Part of these facilities are provided for a towing crew of 2 officers, 6 CPO's, and 24 enlisted men.
AFDL-40: 5 officers and 84 enlisted men.

SHOP FACILITIES AFDL-35, AFDL-37, AFDL-40, and AFDL-41: machine, electrical, and welding shops are provided.
AFDL-38, AFDL-39, AFDL-42, AFDL-43, AFDL-44, and AFDL-45: none provided.

MAIN PUMPS Eight 16-in. discharge mixed-flow pumps, each rated 5,000 gpm at 28½-ft head.

ELECTRICAL

(a) *Power Requirements*

	AFDL-35, AFDL-37, AFDL-40, and AFDL-41	
	Dewatering	*Ship repair*
Total demand	548 kva	669 kva
Normal demand	503 kva	602 kva
Power factor (estimated)	0.80	0.85

	AFDL-38, AFDL-39, AFDL-42, AFDL-43, AFDL-44, and AFDL-45	
	Dewatering	*Ship repair*
Total demand	400 kva	405 kva
Normal demand	385 kva	365 kva
Power factor (estimated)	0.80	0.85

(b) *Power Generation*

AFDL-35, AFDL-37, AFDL-40, and AFDL-41: three 200-kw and one 100-kw diesel-driven generators for 440-v, 3-ph, 60-cy, AC power; connections are provided to take power from shore.

AFDL-38, AFDL-39, AFDL-42, AFDL-43, AFDL-44, and AFDL-45: none installed; shore connections provided to take power from shore; provision made for installing temporary power generating equipment during tow.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power for dock equipment, welding, and ship service.

110/220-v, 3-ph, 60-cy, AC power for ship service.

110/220-v, single-phase, 60-cy, AC power for lighting and galley; connections for obtaining 440-v, 3-ph, 60-cy, AC power from shore.

AFDL-35, AFDL-37, AFDL-40, and AFDL-41: 125/250-v DC power for ship service furnished by one 80-kw motor generator.

AFDL-38, AFDL-39, AFDL-42, AFDL-43, AFDL-44, and AFDL-45: 125/250-v DC power furnished ship in dock from shore sources through open conduits in wing walls.

FUEL OIL Storage capacity is provided as follows.
AFDL-35, AFDL-37, AFDL-40, and AFDL-41: 29,000 gal.
AFDL-38, AFDL-39, AFDL-42, AFDL-43, AFDL-44, and AFDL-45: 22,500 gal.

SALT WATER AFDL-35, AFDL-37, AFDL-40, and AFDL-41: 2 fire pumps, each rated 500 gpm at 125 psi; 3 supply pumps, 2 rated at 135 gpm and 1 at 200 gpm, all at 35 psi; provision made for taking salt water from shore.

AFDL-38, AFDL-39, AFDL-42, AFDL-43, AFDL-44, and AFDL-45: connections provided for taking salt water from shore.

FRESH WATER Storage capacity of 30,000 gal; shore connections provided.
AFDL-35, AFDL-37, AFDL-40, and AFDL-41: 1 salt-water distilling plant rated 5,000 gpd (250 gph for 20 hr).

COMPRESSED AIR Shore connections are provided. AFDL-35, AFDL-37, AFDL-39, AFDL-40, AFDL-41, and AFDL-45, only, have 1 air compressor rated 500 cfm at 100 psi.

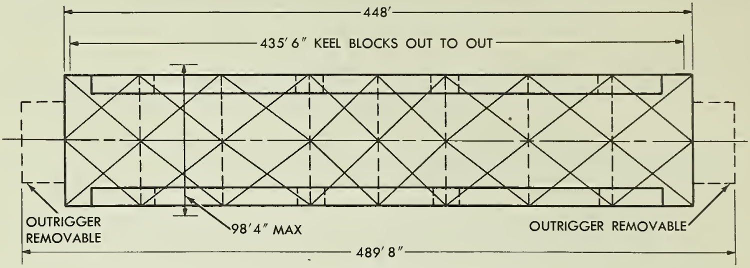
STEAM Shore connections are provided. AFDL-35, AFDL-37, AFDL-38, AFDL-39, AFDL-40, AFDL-41, AFDL-44, and AFDL-45, only, have 1 boiler providing 2,500 lb of steam per hr at 35 psi.

WATER LEVEL INDICATING SYSTEM Pneumatic open-bell bubbler-type system with gages in the control house, 1 for each of the 8 main ballast compartments and the 4 draft points.

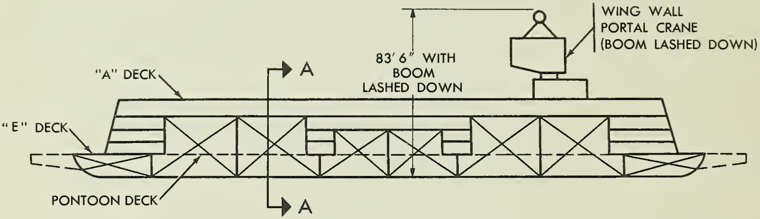
WELDING EQUIPMENT AFDL-35, AFDL-37, AFDL-38, AFDL-39, AFDL-40, and AFDL-41: 2 fixed 750-amp multioperator 70-v welding sets; provision also made for use of portable welding sets.
AFDL-42 and AFDL-43: none; provision made for use of portable welding sets.
AFDL-44 and AFDL-45: one 300-amp portable welding set; provision also made for use of additional welding sets.

SEWAGE DISPOSAL Sewage discharges into sewage tanks and is pumped overboard.

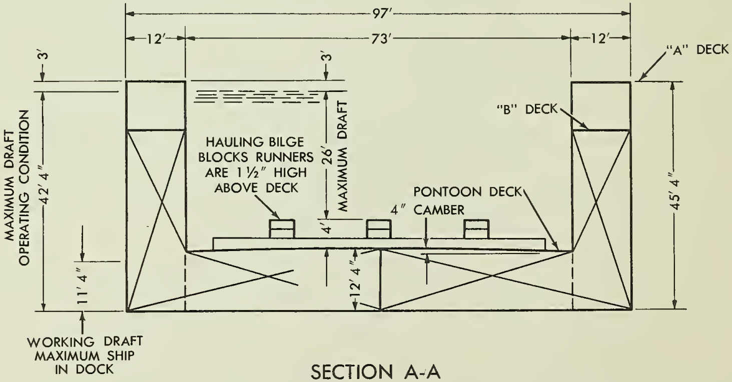
AFDL-47



PLAN


WING WALL PORTAL CRANE (BOOM LASHED DOWN)
83′ 6″ WITH BOOM LASHED DOWN
"A" DECK
A
"E" DECK
PONTOON DECK
A

LONGITUDINAL SECTION
THROUGH WING WALL


97′
12′
73′
12′
3′
3′
"A" DECK
"B" DECK
HAULING BILGE BLOCKS RUNNERS ARE 1 ½″ HIGH ABOVE DECK
26′ MAXIMUM DRAFT
PONTOON DECK
4″ CAMBER
4′
MAXIMUM DRAFT OPERATING CONDITION
42′ 4″
45′ 4″
11′ 4″
12′ 4″
WORKING DRAFT MAXIMUM SHIP IN DOCK

SECTION A-A

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

AFDL-47

This is a one-piece, open-end steel dock capable of being towed at sea and is suitable for operation both offshore and at a pier.

NOMINAL LIFTING CAPACITY 6,500 tons at 12-in. freeboard.

SUITABLE IN GENERAL FOR DOCKING DD, LST, EC2.

SEA TOW Arranged for towing with either single line or bridle. Equipped with two portable compressed-air-powered double-wildcat windlasses for handling 2¼″ anchor chain during tow. Two 13,000-lb emergency anchors carried on pontoon-deck billboards during tow.

KEEL BLOCKS Seventy-three composite oak and concrete pier-type keel blocks, 4′ 0″ high above pontoon deck (including 6-in. soft caps), 4′ 0″ wide, 3′ 6″ long, spaced 6′ 0″ c to c; dock supplied with additional oak blocks 1′ 0″ high, 4′ 0″ wide, 1′ 2″ long for setting 5′ 0″ high keel blocks; 6 pier blocks near each end of dock are cribbed.

BILGE BLOCKS Ninety hardwood hauling-type bilge blocks, 4′ 0″ high, above the runners (including soft caps), 4′ 0″ wide, 1′ 2″ long, spaced 8′ 0″ c to c; dock supplied with additional oak blocks, 1′ 0″ high, 4′ 0″ wide, 1′ 2″ long, for setting 5′ 0″ high bilge blocks; pontoon deck is crowned 4 in.; hauling-block runners are 1½ in. high above the deck and follow the deck crown.

CRANES Two traveling portal cranes, 1 on each wing wall, each rated 15 tons at 34′ 6″ radius or 40,000 lb at 25′ 0″ radius; mechanical control and travel drive powered by diesel engine in cab.

CAPSTANS Six 2-speed reversible capstans, 3 on each wing wall, each rated 10,000 lb at 40 fpm; free line speed is 90 fpm.

MOORING Mooring staples on each side of dock for attaching spread-mooring anchors. Equipped with spuds for mooring alongside pier.

BALLAST COMPARTMENTS Total of 16 ballast compartments, 8 on each side of pontoon centerline bulkhead; each compartment consists of a pontoon tank and adjacent wing tank.

MAIN PUMPS Sixteen 14-in. volute pumps, each rated 6,000 gpm at 20-ft head. Each pump normally serves 1 ballast compartment; equalizing valves installed in transverse compartment bulkheads permit each pump to serve the adjacent compartment in emergency.

CREW'S QUARTERS Quarters, galley and mess facilities for 6 officers and 42 enlisted men. Space reserved for refrigerated food storage, but refrigeration machinery, coldroom coils, and insulation not installed.

SHOP FACILITIES Partly outfitted machine shop contains 16-in. engine lathe and 16-in. universal shaper.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Maximum demand	1,422 kva	1,234 kva
Normal demand	1,305 kva	1,020 kva
Power factor (estimated)	0.75	0.75

(b) *Power Generation*

Three 500-kva, 440-v, 3-ph, 60-cy, AC generators, each driven by a 600-hp diesel engine (air started).
One 187.5-kva, 440-v, 3-ph, 60-cy, AC generator, driven by a 240-hp diesel generator (air started).
One 150-kw, 125/250-v, DC motor generator, driven by a 250-hp AC motor.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power circuits for dock, with basin outlets for ship service.
120-v, single-phase, 60-cy, AC circuits for dock lighting.
230-v, 3-ph, 60-cy, AC outlet for ship service.
117-v, 3-ph, 60-cy, AC outlet for ship service.
125/250-v, DC outlets for ship service.

(d) *Shore Connections*

One 2,400-amp, 450-v, 3-ph, 60-cy, AC shore connection box, starboard, near midship.

FUEL OIL 46,150-gal storage.

SALT WATER Salt-water fire mains served by 4 sea pumps, each with capacity of 500 gpm at 280-ft tdh. Salt-water cooling system for diesel engine heat exchangers is served by 4 sea pumps, each with capacity of 300 gpm at 75-ft tdh. Salt water for air compressor cooling, distilling plant supply, and condenser service is supplied by 2 sea pumps, each with capacity of 300 gpm at 75-ft tdh. Two sea pumps, each with capacity of 75 gpm at 160-ft tdh, serve 40-psi pneumatic-pressure salt-water flushing system.

FRESH WATER Two 4,000-gpd salt-water distilling plants; 46,000-gal total storage capacity. Pneumatic pressure distribution system, 100 gpm. Shore connections provided for filling or pressure operation from shore. Fresh-water circulating system for diesel cooling, 250 gpm.

COMPRESSED AIR Two 318-cfm at 100-psi service air compressors. Air distribution system with outlets in shop and dock basin. The 250-lb diesel-starting air system is served by 1 motor-driven 14-cfm compressor and 1 diesel-engine-driven 8-cfm compressor. Two 3-hp motor-driven compressors serve the salt-water and fresh-water pressure systems.

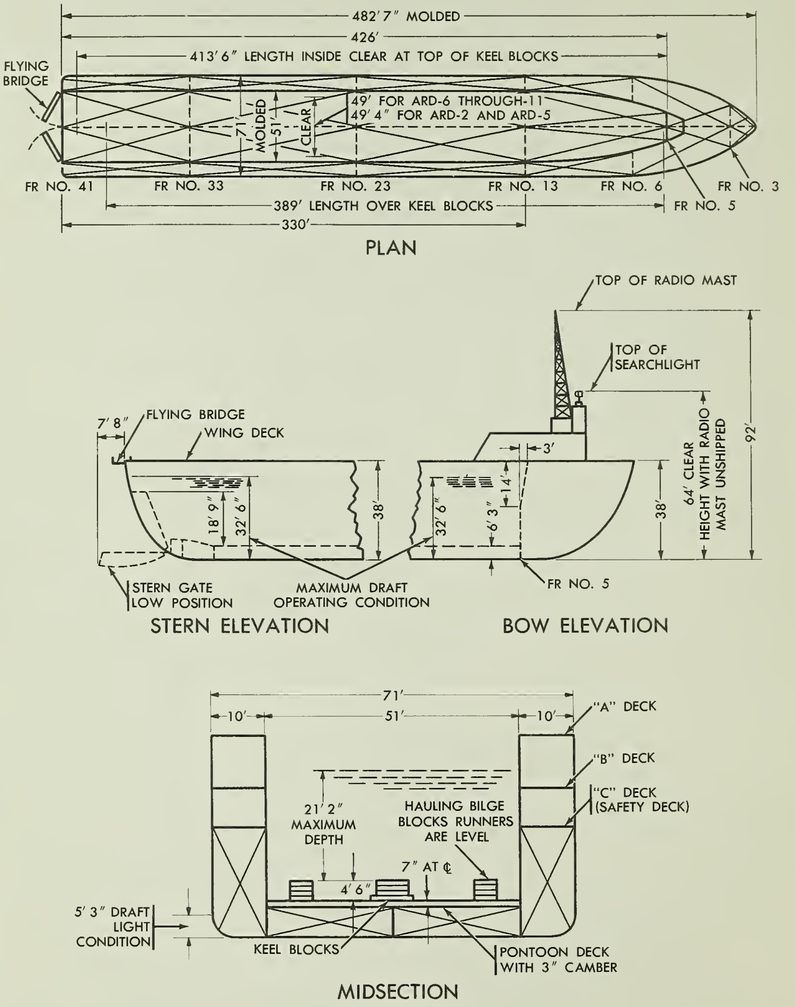
STEAM Dock steam heating system served by two 3,000-lb per hr, 125-psi boilers.

WATER LEVEL INDICATING SYSTEM Open-bell, air-transmission type, with mercury-column-type indicators for dock draft and ballast water levels located in control house on A deck.

WELDING EQUIPMENT Two welding motor-generator sets, each consisting of a 70-v, 750-amp, DC generator driven by a 440-v, 3-ph, 60-cy, AC motor. Welding outlets provided in drydock shop and exterior outlets provided for welding on ship and in dock basin. Ten 300-amp portable welding motor-generator sets also provided.

SEWAGE DISPOSAL SYSTEM Sewage from ship discharged overboard by gravity. Sewage from dock discharged into sewage tanks and pumped overboard. Sewage tanks can be bypassed to discharge dock sewage by gravity when dock is at working draft.

ARD-2 AND ARD-5 THROUGH ARD-11



SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

ARD-2 AND ARD-5 THROUGH ARD-11

These are one-piece steel docks, each with closed bow and stern gate. Each is capable of being towed at sea and is suitable for operation both offshore and at a pier.

NOMINAL LIFTING CAPACITY 3,500 tons.

SUITABLE IN GENERAL FOR DOCKING DL, DD, DE, SS, and so on.

SEA TOW Designed for sea tow and equipped with 2 hydraulically operated rudders.

KEEL BLOCKS 4′ 6″ high (including 6-in. soft caps), 4′ 8″ wide, 3′ 6″ long, pier type, spaced 6′ 0″ c to c.

BILGE BLOCKS 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long hauling bilge blocks, spaced 12′ 0″ c to c throughout; supplemented by 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long fixed submarine blocks throughout the mid one third of the basin.

CRANES Two traveling portal cranes rated 10 tons at 16′ 0″ radius, 5 tons at 35′ 6″ radius, and 4 tons at 41′ 0″ radius. Mechanical and electrical operation, with self-contained diesel generating plant in cab. One crane on each wing wall.

CAPSTANS One headline capstan on boat deck, located forward on dock centerline; and 2 capstans on each wing wall, all rated 10,000-lb pull at 16 fpm and 3,000-lb pull at 48 fpm and reversible.

MOORING Mooring staples on each side for attaching spread-mooring anchors. Three anchor windlasses on A deck at bow for handling and hawsing 10,000-lb anchors. Two line winches on A deck at stern for handling 3,000-lb quarter anchors on ARD-2, ARD-5, ARD-6, ARD-8, ARD-9, and ARD-10 only. Winches less fairleads installed on ARD-7. ARD-5, ARD-6, and ARD-7 are equipped with mooring spuds.

BALLAST COMPARTMENTS Wing tanks, 5 port, 5 starboard. Pontoon tanks, 4 port, 4 starboard. Peak tanks, 1 port, 1 starboard.

CREW'S QUARTERS There are 5 officers' staterooms; bunkrooms for 8 CPO's and 99 enlisted men; galley, mess, and refrigerated stores facilities provided.

SHOP FACILITIES Ship-hull and forge, machine, electrical, and welding shops.

MAIN PUMPS Four 24-in. discharge volute-type pumps, each rated 15,000 gpm at 12-ft head.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Maximum demand	557 kva	685 kva
Normal demand	510 kva	616 kva
Power factor (estimated)	0.75	0.80

(b) *Power Generation*

Four diesel-driven generators producing 440-v, 3-ph, 60-cy, AC power; total generating capacity is approximately: 600 kw for ARD-6, ARD-7, ARD-8, ARD-9, and ARD-11; 700 kw for ARD-2, ARD-5, and ARD-10.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power circuits for dock, with outlets for ship service.
115/230-v, single-phase, 60-cy, AC panels for lighting.
230-v, 3-ph, 60-cy, AC circuit for galley, with outlets for ship service.
Motor-generator set (or rectifier) for 125/250-v, DC power, with outlets for ship service.

(d) *Shore Connections*

On both sides of dock for connection to 440-v, 3-ph, 60-cy, AC shore power.

WELDING SYSTEM Two motor-generator sets, each consisting of a 70-v, 750-amp, flat-compound, DC generator driven by a 440-v, 3-ph, 60-cy, AC motor. Welding outlets provided in the drydock's shops, and exterior outlets provided for welding on the ship and in the dock basin.

FUEL OIL STORAGE Approximately 27,500 gal.

SALT-WATER SYSTEM Dock equipped with sea pumps and distribution systems for flushing water and cooling water at 40 psi and for 1,000- to 1,250-gpm fire service at 125 psi. Shore connections are provided for these systems.

FRESH-WATER SYSTEM Dock equipped with salt-water distilling plant (3,600 to 5,000 gpd capacity), fresh-water storage tanks and pneumatic fresh-water pressure distribution system. Shore connections provided for filling or pressure operation from shore.

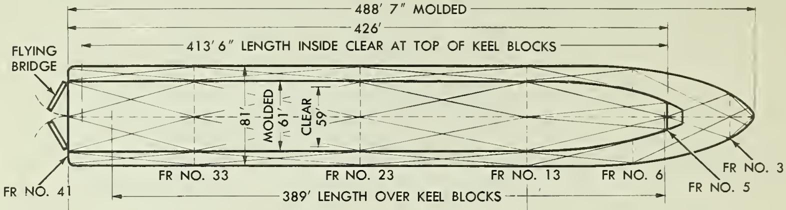
COMPRESSED AIR One motor-driven main air compressor, 500 cfm at 100 psi. Air distribution system with outlets in shops and outlets in basin for shipwork. One 400-cfm diesel-driven portable air compressor on A deck on ARD-2, ARD-5, ARD-6, ARD-8, ARD-10, and ARD-11 only.

STEAM One 43-hp oil-fired boiler (35 psi) on all docks. One 60-hp oil-fired boiler (100 psi) on ARD-2, ARD-5, ARD-6, and ARD-10 only.

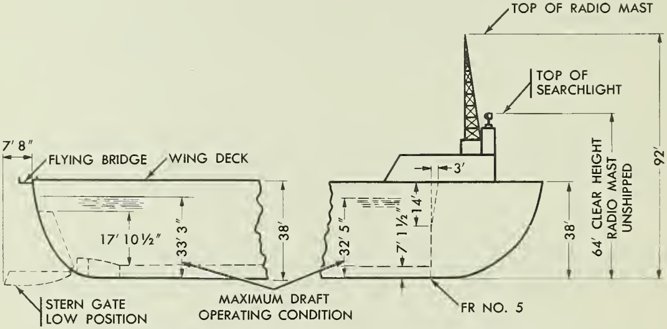
WATER LEVEL INDICATING SYSTEM Open-bell, air-transmission type. Indicators for dock draft and ballast water levels are located in the control house in the forward superstructure.

SEWAGE DISPOSAL SYSTEM Sewage from ship discharged overboard by gravity. Sewage from dock discharged into sewage tanks and pumped overboard. Sewage tanks can be bypassed to discharge dock sewage by gravity when dock is at working draft.

ARD-12 THROUGH ARD-14

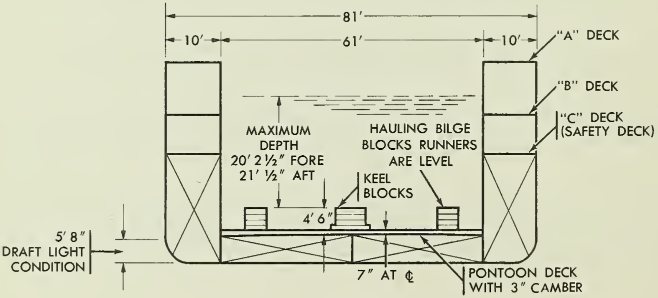


PLAN



STERN ELEVATION

BOW ELEVATION


81′
10′
61′
10′
"A" DECK
"B" DECK
"C" DECK (SAFETY DECK)
MAXIMUM DEPTH 20′ 2½″ FORE 21′ ½″ AFT
HAULING BILGE BLOCKS RUNNERS ARE LEVEL
KEEL BLOCKS
4′ 6″
5′ 8″ DRAFT LIGHT CONDITION
7″ AT ℄
PONTOON DECK WITH 3″ CAMBER

MIDSECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

ARD-12 THROUGH ARD-14

These are one-piece steel docks, each with closed bow and stern gate. Each is capable of being towed at sea and is suitable for operation both offshore and at a pier.

NOMINAL LIFTING CAPACITY 3,500 tons.

SUITABLE IN GENERAL FOR DOCKING DL, DD, DE, SS, LST, and so on.

SEA TOW Designed for sea tow and equipped with 2 hydraulically operated rudders.

KEEL BLOCKS 4′ 6″ high (including 6-in. soft caps), 4′ 8″ wide, 3′ 6″ long, pier type, spaced 6′ 0″ c to c.

BILGE BLOCKS 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long hauling bilge blocks, spaced 12′ 0″ c to c throughout; supplemented by 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long fixed submarine blocks throughout the mid one third of the basin.

CRANES Two traveling portal cranes rated 10 tons at 16′ 0″ radius, 5 tons at 35′ 6″ radius, 4 tons at 41′ 0″ radius. Mechanical and electrical operation, with self-contained diesel generating plant in cab. One crane on each wing wall.

CAPSTANS One headline capstan on boat deck, located forward on dock centerline, and 2 capstans on each wing wall, all rated 10,000-lb pull at 16 fpm and 3,000-lb pull at 48 fpm and reversible.

MOORING Mooring staples on each side for attaching spread-mooring anchors. Three anchor windlasses on A deck at bow for handling and hawsing 10,000-lb anchors. Two line winches on A deck at stern for handling 3,000-lb quarter anchors on ARD-12 and ARD-14 only. All are equipped with mooring spuds.

BALLAST COMPARTMENTS Wing tanks, 5 port, 5 starboard. Pontoon tanks, 4 port, 4 starboard. Peak tanks, 1 port, 1 starboard.

CREW'S QUARTERS There are 6 officers' staterooms; bunkrooms for 8 CPO's and 99 enlisted men; galley, mess, and refrigerated stores facilities provided.

SHOP FACILITIES Ship-hull and forge, machine, electrical, and welding shops.

MAIN PUMPS Four 24-in. discharge volute-type pumps, each rated 15,000 gpm at 12-ft head.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Maximum demand	557 kva	685 kva
Normal demand	510 kva	616 kva
Power factor (estimated)	0.75	0.80

(b) *Power Generation*

Four diesel-driven generators producing 440-v, 3-ph, 60-cy, AC power; total generating capacity is approximately: 600 kw for ARD-13; 700 kw for ARD-12 and ARD-14.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power circuits for dock, with outlets for ship service.
115/230-v, single-phase, 60-cy, AC panels for lighting.
230-v, 3-ph, 60-cy, AC circuit for galley, with outlets for ship service.
Motor-generator set (or rectifier) for 125/250-v, DC power, with outlets for ship service.

(d) *Shore Connections*

On both sides of dock for connection to 440-v, 3-ph, 60-cy, AC shore power.

WELDING SYSTEM Two motor-generator sets, each consisting of a 70-v, 750-amp, flat-compound, DC generator driven by a 440-v, 3-ph, 60-cy, AC motor. Welding outlets provided in the drydock's shops, and exterior outlets provided for welding on the ship and in the dock basin.

FUEL OIL STORAGE Approximately 27,500 gal.

SALT-WATER SYSTEM Dock equipped with sea pumps and distribution systems for flushing water and cooling water at 40 psi and for 1,000- to 1,250-gpm fire service at 125 psi. Shore connections are provided for these systems.

FRESH-WATER SYSTEM Dock equipped with salt-water distilling plant (3,600 to 5,000 gpd capacity), fresh-water storage tanks and pneumatic fresh-water pressure distribution system. Shore connections provided for filling or pressure operation from shore.

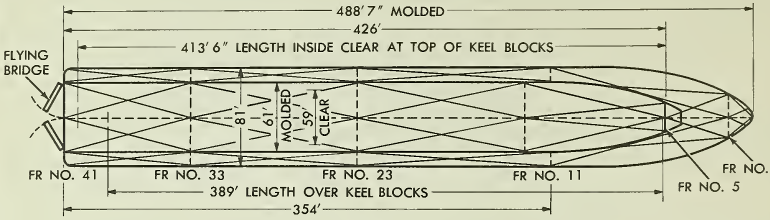
COMPRESSED AIR One motor-driven main air compressor, 500 cfm at 100 psi. Air distribution system with outlets in shops and outlets in basin for shipwork. One 400-cfm diesel-driven portable air compressor on A deck.

STEAM One 43-hp oil-fired boiler (35 psi) and one 60-hp oil-fired boiler (100 psi).

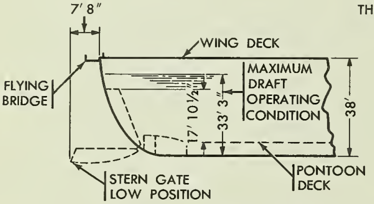
WATER LEVEL INDICATING SYSTEM Open-bell, air-transmission type. Indicators for dock draft and ballast water levels are located in the control house in the forward superstructure.

SEWAGE DISPOSAL SYSTEM Sewage from ship discharged overboard by gravity. Sewage from dock discharged into sewage tanks and pumped overboard. Sewage tanks can be bypassed to discharge dock sewage by gravity when dock is at working draft.

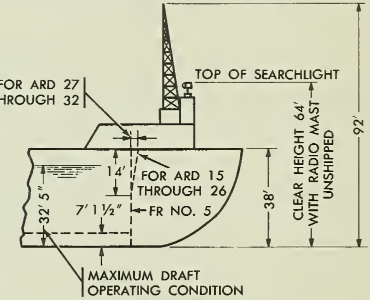
ARD-15 THROUGH ARD-20
AND ARD-22 THROUGH ARD-32



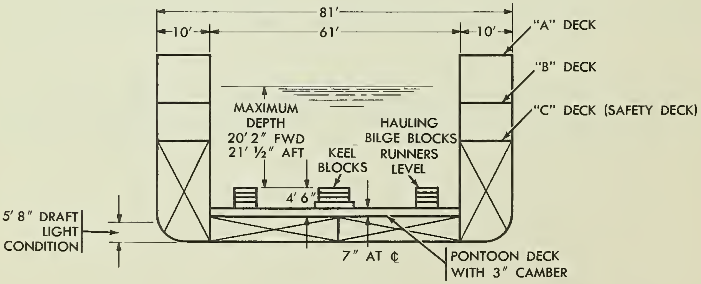
PLAN



STERN ELEVATION



STERN ELEVATION BOW ELEVATION


81'
10'
61'
10'
"A" DECK
"B" DECK
"C" DECK (SAFETY DECK)
MAXIMUM DEPTH 20' 2" FWD 21' ½" AFT
HAULING BILGE BLOCKS RUNNERS LEVEL
KEEL BLOCKS
4' 6"
5' 8" DRAFT LIGHT CONDITION
7" AT ℄
PONTOON DECK WITH 3" CAMBER

MIDSECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

ARD-15 THROUGH ARD-20 AND ARD-22 THROUGH ARD-32

These are one-piece steel docks, each with closed bow and stern gate. Each is capable of being towed at sea and is suitable for operation both offshore and at a pier.

NOMINAL LIFTING CAPACITY 3,500 tons.

SUITABLE IN GENERAL FOR DOCKING DL, DD, DE, SS, LST, and so on.

SEA TOW Designed for sea tow and equipped with 2 hydraulically operated rudders.

KEEL BLOCKS 4′ 6″ high (including 6-in. soft caps), 4′ 8″ wide, 3′ 6″ long, pier type, spaced 6′ 0″ c to c.

BILGE BLOCKS 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long hauling bilge blocks spaced 12′ 0″ c to c throughout; supplemented by 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long fixed submarine blocks throughout the mid one third of the basin.

CRANES Two traveling portal cranes rated 10 tons at 16′ 0″ radius, 5 tons at 35′ 6″ radius, 4 tons at 41′ 0″ radius. Mechanical and electrical operation, with self-contained diesel generating plant in cab. One crane on each wing wall.

CAPSTANS One headline capstan on boat deck, located forward on dock centerline, and 2 capstans on each wing wall, all rated 10,000-lb pull at 16 fpm and 3,000-lb pull at 48 fpm and reversible.

MOORING Mooring staples on each side for attaching spread-mooring anchors. Three anchor windlasses on A deck at bow for handling and hawsing 10,000-lb anchors. Two line winches on A deck at stern for handling 3,000-lb quarter anchors. ARD-15, ARD-22, ARD-26, ARD-29, ARD-30, and ARD-31 are equipped with mooring spuds.

BALLAST COMPARTMENTS Wing tanks, 4 port, 4 starboard. Pontoon tanks, 4 port, 4 starboard. Peak tanks, 1 port, 1 starboard.

CREW'S QUARTERS There are 6 officers' staterooms; bunkrooms for 8 CPO's and 99 enlisted men; galley, mess, and refrigerated stores facilities provided.

SHOP FACILITIES Ship-hull and forge, machine, electrical, and welding shops.

MAIN PUMPS Four 24-in. discharge volute-type pumps, each rated 15,000 gpm at 12-ft head.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Maximum demand	557 kva	685 kva
Normal demand	510 kva	616 kva
Power factor (estimated)	0.75	0.80

(b) *Power Generation*

4 diesel-driven generators producing 440-v, 3-ph, 60-cy, AC power; total generating capacity is approximately: 600 kw for ARD-15, ARD-17, ARD-20, and ARD-23; 700 kw for ARD-16, ARD-18, ARD-19, ARD-22, ARD-24, ARD-25, ARD-26, ARD-27, ARD-28, ARD-30, and ARD-31; 850 kw for ARD-29 and ARD-32.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power circuits for dock, with outlets for ship service.
115/230-v, single-phase, 60-cy, AC panels for lighting.
230-v, 3-ph, 60-cy, AC circuit for galley, with outlets for ship service.
Motor-generator set (or rectifier) for 125/250-v, DC power, with outlets for ship service.

(d) *Shore Connections*

On both sides of dock for connection to 440-v, 3-ph, 60-cy, AC shore power.

WELDING SYSTEM Two motor-generator sets, each consisting of a 70-v, 750-amp, flat-compound, DC generator driven by a 440-v, 3-ph, 60-cy, AC motor. Welding outlets provided in the drydock's shops, and exterior outlets provided for welding on the ship and in the dock basin.

FUEL OIL STORAGE Approximately 27,500 gal.

SALT-WATER SYSTEM Dock equipped with sea pumps and distribution systems for flushing water and cooling water at 40 psi and for 1,000- to 1,250-gpm fire service at 125 psi. Shore connections are provided for these systems.

FRESH-WATER SYSTEM Dock equipped with salt-water distilling plant (3,600- to 5,000-gpd capacity), fresh-water storage tanks and pneumatic fresh-water pressure distribution system. Shore connections provided for filling or pressure operation from shore.

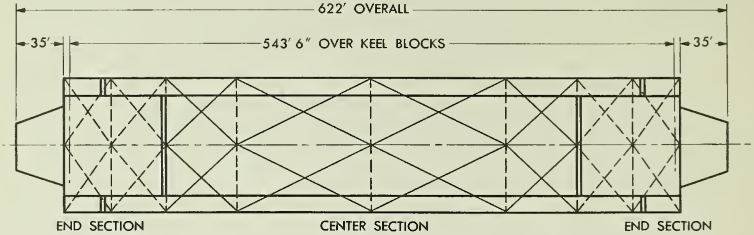
COMPRESSED AIR One motor-driven main air compressor, 500 cfm at 100 psi. Air distribution system with outlets in shops and outlets in basin for shipwork. One 400-cfm diesel-driven portable air compressor on A deck on ARD-16, ARD-18, ARD-19, ARD-20, ARD-22, ARD-23, ARD-24, ARD-25, ARD-26, ARD-28, and ARD-31 only.

STEAM One 43-hp oil-fired boiler (35 psi) on all docks. One 60-hp oil-fired boiler (100 psi) on ARD-18, ARD-22, and ARD-24 through ARD-32 only. One 5,000-lb per hr oil-fired boiler (100 psi) on ARD-22 and ARD-31 only.

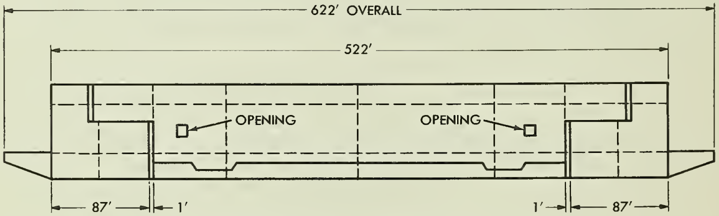
WATER LEVEL INDICATING SYSTEM Open-bell, air-transmission type. Indicators for dock draft and ballast water levels are located in the control house in the forward superstructure.

SEWAGE DISPOSAL SYSTEM Sewage from ship discharged overboard by gravity. Sewage from dock discharged into sewage tanks and pumped overboard. Sewage tanks can be bypassed to discharge dock sewage by gravity when dock is at working draft.

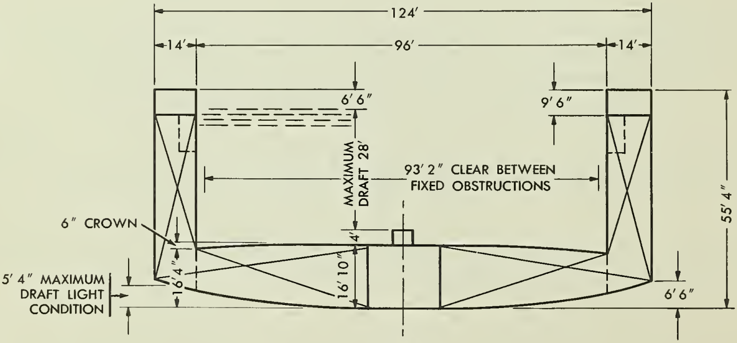
YFD-7



PLAN



LONGITUDINAL ELEVATION


124′
14′
96′
14′
6′ 6″
9′ 6″
MAXIMUM DRAFT 28′
93′ 2″ CLEAR BETWEEN FIXED OBSTRUCTIONS
55′ 4″
6″ CROWN
4′
16′ 4″
16′ 10″
5′ 4″ MAXIMUM DRAFT LIGHT CONDITION
6′ 6″

SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

YFD-7

This is a three-piece, open-end steel dock suitable for operation at a pier. It is towed at sea with the end sections stowed within the center section.

NOMINAL LIFTING CAPACITY 18,000 tons at 18-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING Certain CA's and CVE's; all DD, DE, CL, LST, SS, and so on.

KEEL BLOCKS 4′ 0″ high, 5′ 6″ wide, 3′ 6″ long timber blocks, spaced 6′ 0″ c to c.

BILGE BLOCKS 3′ 10″ high, 4′ 0″ wide, 1′ 0″ long movable timber blocks, spaced 8′ 0″ c to c on middle portion of the dock and 16′ 0″ c to c at the end portions.

CRANES None.

CAPSTANS Eight nonreversible power capstans, 4 on each wing-wall deck, each rated 10,000 lb at 30 fpm.

MOORING Eight mooring spuds and brackets on one of the outboard sides for securing the dock to guides on a pier. Five mooring staples provided on the outboard face of each wing wall for use with anchor and chain, if required.

BALLAST COMPARTMENTS There is a total of 16 main ballast compartments, 8 in the center section and 4 in each end section. There is also a collision bulkhead in each end of the center section, and the valves in these must remain closed during towing and open during dock operations.

CREW'S QUARTERS None.

SHOP FACILITIES None.

MAIN PUMPS Four 30-in. discharge pumps, each rated at 29,000 gpm at a head of 14 ft and 21,600 gpm at a head of 27 ft. Four 20-in. discharge pumps each rated 15,000 gpm at a head of 12 ft and 9,500 gpm at a head of 27 ft.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Total demand	1,250 kva	1,070 kva
Normal demand	1,125 kva	855 kva
Power factor (estimated)	0.80	0.80

(b) *Power Generation*

Electric power for operating the dock is obtained from a shore supply. One 330-kw diesel generator is provided for emergency supply of 440-v, 3-ph, 60-cy, AC power. One 300-kw motor-generator set is provided for 110/220-v, DC ship service.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power for dock equipment, ship service, welding and transformers.
120/208-v, 3-ph, 60-cy AC for lighting.
110/220-v, 3-ph, 60-cy AC for ship service.
110/220-v DC for ship service.
Five 400-amp, 440-v, 3-pole, 60-cy power receptacles are installed on each side of the dock for shore-supplied AC power.

FUEL OIL Storage capacity for 32,000 gal is provided by eight 4,000-gal tanks.

SALT WATER Connections provided for obtaining salt water from shore. Storage capacity of 5,000 gal is provided by four 1,250-gal tanks, three of which are for future use. For operation, only when the diesel engine is running, there are provided a pair of non-clogging pumps rated at 400 gpm at 25 psi and a salt-water circulating pump rated at 220 gpm at 25 psi. There are no fire pumps on this dock. Pressure for fire service is obtained from shore supply, into a 4-in. main at 100 psi at each wing wall.

FRESH WATER Connections provided for obtaining fresh water from shore. One 150-gal fresh-water tank installed with the diesel-engine cooling system. There are no distilling plants on the dock.

COMPRESSED AIR Connections provided for obtaining compressed air from shore supply into 4-in. mains at 100 psi at each wing wall. There are no main compressors on the dock.

STEAM Four oil-fired boilers, each with a capacity of 2,000 lb of steam per hr at 125 psi, are provided. Shore connections are provided for high-pressure steam.

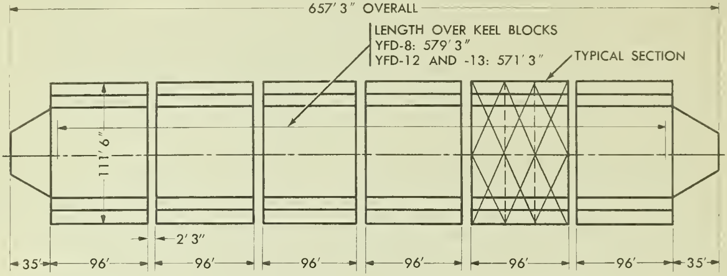
WATER LEVEL INDICATING SYSTEM Pneumatic purging type with mercury column gages in the control house, 1 for each main ballast compartment and 1 for each of the 2 draft measuring points.

WELDING EQUIPMENT Outlets are provided for use with welding equipment, but welding equipment is not provided.

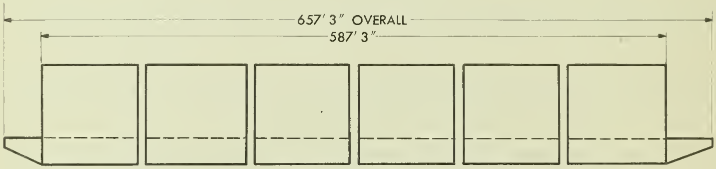
SEWAGE DISPOSAL SYSTEM None provided.

OXYGEN AND ACETYLENE SYSTEM Connections are supplied for obtaining oxygen and acetylene from shore sources. Distribution is through one 2-in. oxygen service main and one 2-in. acetylene service main attached to the inboard face of the pier sidewall.

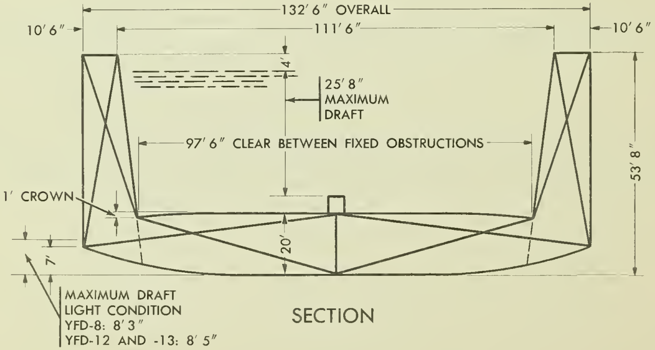
YFD-8, YFD-12, AND YFD-13



PLAN



LONGITUDINAL ELEVATION



SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

YFD-8, YFD-12, AND YFD-13

These are six-section, open-end timber docks. They are capable of being towed in individual sections at sea and are suitable for operation at a pier only.

NOMINAL LIFTING CAPACITY 20,000 tons at 18-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING CA, CL, DD, DE, SS, LST, and so on.

KEEL BLOCKS YFD-8: 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long timber blocks, spaced 4′ 0″ c to c.
YFD-12, YFD-13: 4′ 0″ high, 4′ 0″ wide, 1′ 2″ long timber blocks, spaced 4′ 0″ c to c.

BILGE BLOCKS Movable bilge blocks spaced 8′ 0″ c to c on the middle portion of each section and 12′ 0″ c to c on the end portions of each section.

CRANES None.

CAPSTANS YFD-8: 4 nonreversible power capstans, 2 on each wing-wall deck, each rated 10,000 lb at 25 fpm; 6 hand capstans, 3 on each wing-wall deck, each rated 1,000 lb.
YFD-12, YFD-13: 6 nonreversible power capstans, 3 on each wing-wall deck, each rated 10,000 lb at 25 fpm.

MOORING Twelve mooring spuds on one of the outboard sides for securing the dock to guides on a pier.

BALLAST COMPARTMENTS There are 36 ballast compartments—6 on each section, 3 port and 3 starboard.

CREW'S QUARTERS None.

SHOP FACILITIES None.

MAIN PUMPS 20-in. discharge pumps, each rated 16,000 gpm at a head of 16 ft and 9,000 gpm at a head of 28 ft. YFD-8 has 12 pumps (2 pumps per section). YFD-12 and YFD-13 have thirty-six 12-in. discharge pumps, each rated 3,500 gpm at a head of 25 ft (6 pumps per section).

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
YFD-8:		
Total demand	1,250 kva	350 kva
Normal demand	1,150 kva	315 kva
Power factor (estimated)	0.85	0.80

	Dewatering	*Ship repair*
YFD-12, YFD-13:		
Total demand	1,140 kva	540 kva
Normal demand	1,020 kva	485 kva
Power factor (estimated)	0.80	0.80

(b) *Power Generation*

No generating equipment on board. All power is furnished from shore supply.

(c) *Distribution System*

440-v, 3-ph, 60-cy AC for dock equipment.
YFD-8: 120-v, single-phase, 60-cy AC for lighting.
YFD-12 and YFD-13: 120/208-v, 3-ph, 60-cy AC for lighting.

FUEL OIL None.

SALT WATER Shore connections are provided for salt-water supply. Distributed through 4-in. mains, 1 in the inboard face of each wing wall.

FRESH WATER YFD-8: none provided.
YFD-12 and YFD-13: shore connections are provided for fresh water.

COMPRESSED AIR Shore connections are provided for compressed air. Distributed through 2½-in. mains for the YFD-8 and 4-in. mains on the YFD-12 and YFD-13. One main is on the inboard face of each wing wall.

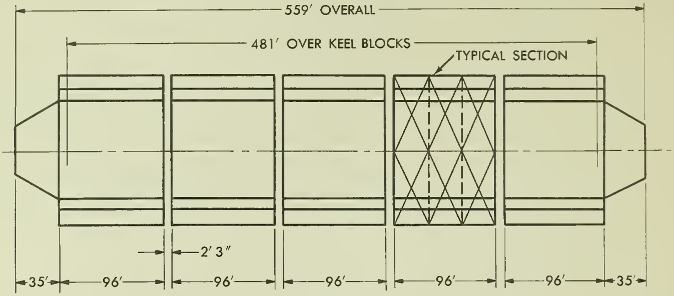
STEAM None provided.

WATER LEVEL INDICATING SYSTEM YFD-8: pneumatic type with dial gages in panels on each section, 1 for each ballast compartment and 1 for each of the 2 draft measuring points.
YFD-12 and YFD-13: pneumatic-electric type with 2 indicator boards located on shore, 1 board for each side of the dock. There is 1 dial gage for each ballast compartment and 1 for each of the 2 draft measuring points in each section.

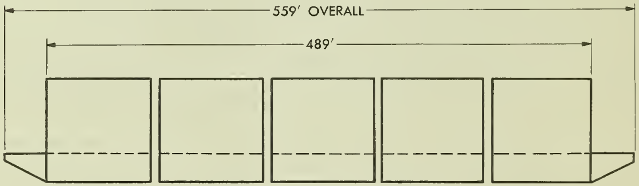
WELDING EQUIPMENT None provided. The YFD-8 is equipped with 440-v, 3-ph, AC power receptacles for welding machines. The YFD-12 and YFD-13 are not equipped with welding receptacles.

SEWAGE DISPOSAL SYSTEM None provided.

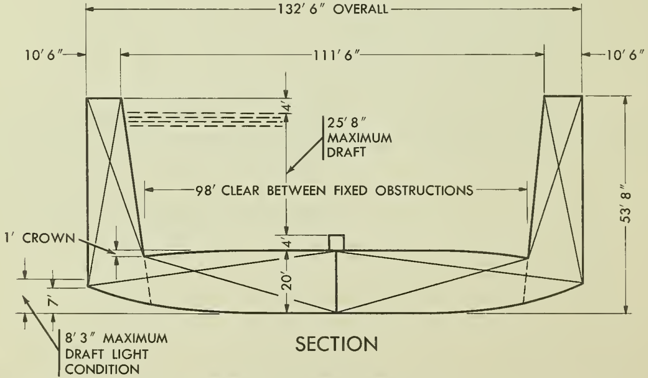
YFD-9



PLAN



LONGITUDINAL ELEVATION



SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

YFD-9

This is a five-section, open-end timber dock. It is capable of being towed in individual sections at sea and is suitable for operation at a pier only.

NOMINAL LIFTING CAPACITY 16,000 tons at 18-in. pontoon freeboard.

SUITABLE IN GENERAL 'FOR DOCKING CL, DD, DE, LST, and so on.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 1′ 0″ long timber blocks spaced 4′ 0″ c to c.

BILGE BLOCKS Movable bilge blocks spaced 8′ 0″ c to c on the middle portion of each section and 12′ 0″ c to c on the end portions of each section.

CRANES None.

CAPSTANS Four nonreversible power capstans, 2 on each wing-wall deck, each rated 10,000 lb at 25 fpm; 6 nonreversible hand capstans, 3 on each wing-wall deck, each rated 1,000 lb.

MOORING Ten mooring spuds on one of the outboard sides for securing the dock to guides on a pier.

BALLAST COMPARTMENTS There are 30 ballast compartments—6 on each section, 3 port and 3 starboard.

CREW'S QUARTERS None.

SHOP FACILITIES None.

MAIN PUMPS Ten 20-in. discharge pumps, each rated 16,000 gpm at a head of 16 ft and 9,000 gpm at a head of 28 ft (2 pumps per section).

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Total demand	1,050 kva	290 kva
Normal demand	970 kva	260 kva
Power factor (estimated)	0.85	0.80

(b) *Power Generation*

No generating equipment on board. All power is furnished from shore supply.

(c) *Distribution System*

440-v, 3-ph, 60-cy AC for dock equipment.
120-v, single-phase, 60-cy AC for lighting.

FUEL OIL None.

SALT WATER Shore connections are provided for salt-water supply. Distributed through 4-in. mains, 1 on the inboard face of each wing wall.

FRESH WATER None provided.

COMPRESSED AIR Shore connections are provided for compressed air. Distributed through 2½-in. mains, 1 on the inboard face of each wing wall.

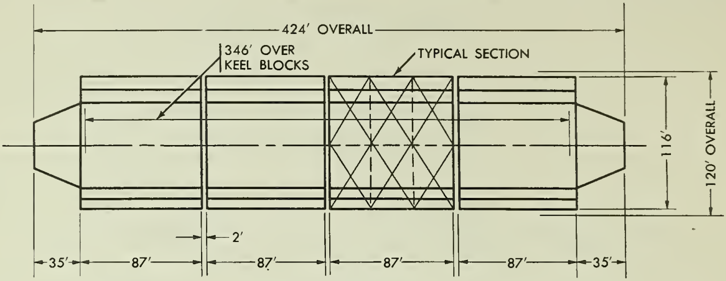
STEAM None provided.

WATER LEVEL INDICATING SYSTEM Pneumatic type with dial gages in panels on each section, 1 for each ballast compartment and 1 for each of the 2 draft measuring points.

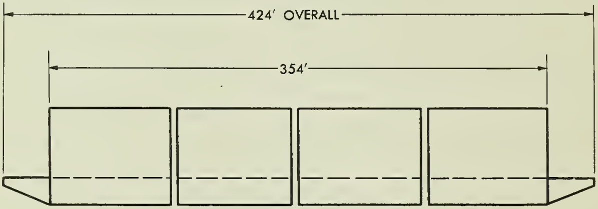
WELDING EQUIPMENT None provided. The dock is equipped with 440-v, 3-ph, AC power receptacles for welding machines.

SEWAGE DISPOSAL SYSTEM None provided.

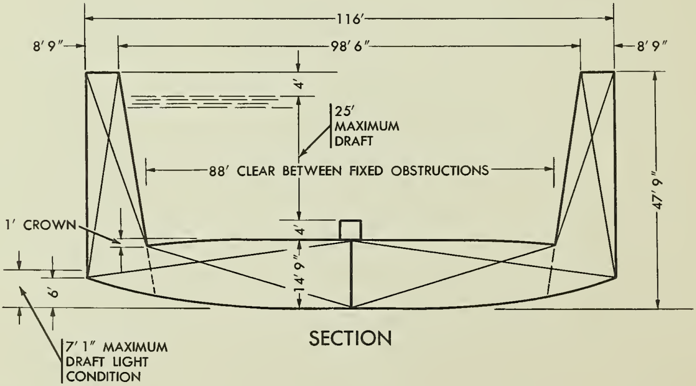
YFD-15



PLAN



LONGITUDINAL ELEVATION


116′
8′ 9″
98′ 6″
8′ 9″
4′
25′ MAXIMUM DRAFT
88′ CLEAR BETWEEN FIXED OBSTRUCTIONS
47′ 9″
1′ CROWN
4′
14′ 9″
6′
7′ 1″ MAXIMUM DRAFT LIGHT CONDITION

SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

YFD-15

This is a four-section, open-end timber dock. It is capable of being towed in individual sections at sea and is suitable for operation at a pier.

NOMINAL LIFTING CAPACITY 6,500 tons at 12-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING DD, SS, DE, LST, and so on.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 1′ 2″ long timber keel blocks, spaced 4′ 0″ c to c.

BILGE BLOCKS Movable bilge blocks, spaced 8′ 0″ c to c on the middle portion of each section and 12′ 0″ c to c on the end portions of each section.

CRANES None.

CAPSTANS Six wing-wall capstans, nonreversible, rated 10,000 lb at 30 fpm, 3 on each wing-wall deck.

MOORING Eight mooring spuds on one of the outboard sides for securing the dock to mooring guides on the pier.

BALLAST COMPARTMENTS There are 24 ballast compartments, 3 port and 3 starboard in each section.

CREW'S QUARTERS None.

SHOP FACILITIES None.

MAIN PUMPS Eight 18-in. discharge pumps, each rated 13,000 gpm at a head of 13 ft and 11,800 gpm at a head of 25 ft, 2 pumps per section.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Total demand	850 kva	275 kva
Normal demand	765 kva	248 kva
Power factor (estimated)	0.80	0.80

(b) *Power Generation*

No generating equipment on board. All power is furnished from shore supply.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power for dock equipment, lighting transformers, welding. 110/220-v, single-phase, 60-cy, AC power for lighting and auxiliary service. No ship service connections are provided. No DC power is available.

FUEL OIL None.

SALT WATER Shore connections are provided for salt-water supply. Distributed through 4-in. mains, 1 on the inboard face of each wing wall.

FRESH WATER Shore connections are provided for fresh-water supply.

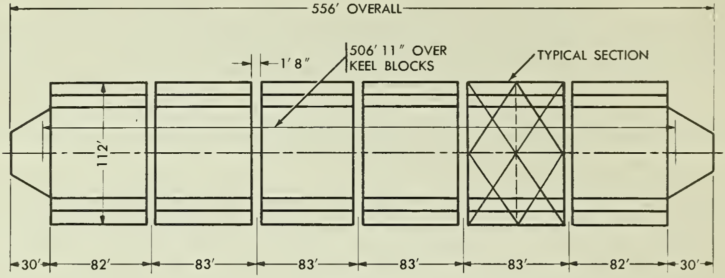
COMPRESSED AIR Shore connections are provided for compressed air. Distributed through 4-in. mains, 1 on the inboard face of each wing wall.

STEAM Shore connections are provided for steam supply. Distributed through one 2½-in. service main on the outboard face of the B side.

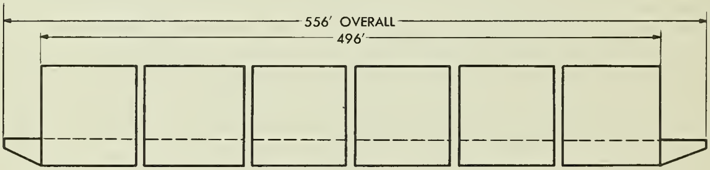
WATER LEVEL INDICATING SYSTEM Pneumatic-electric type with indicator board in control house located on shore. There is 1 dial gage for each ballast compartment and 1 for each of the 2 draft measuring points in each section.

WELDING EQUIPMENT None provided. One 440-v, 3-ph, 60-cy, AC outlet provided for welding machine.

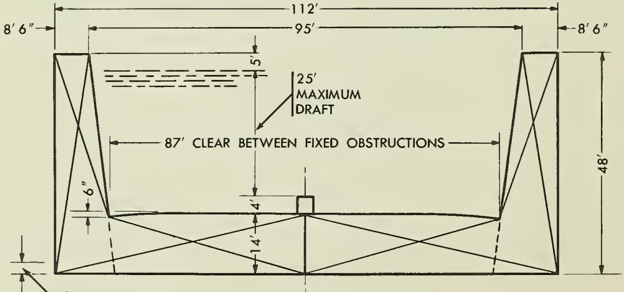
SEWAGE DISPOSAL SYSTEM None provided.



PLAN



LONGITUDINAL ELEVATION


112′
95′
8′ 6″
8′ 6″
5′
25′ MAXIMUM DRAFT
87′ CLEAR BETWEEN FIXED OBSTRUCTIONS
48′
6″
4′
14′
4′ 3″ MAXIMUM DRAFT LIGHT CONDITION

SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

YFD-16

This is a six-section, open-end timber dock. It is capable of being towed in individual sections at sea and is suitable for operation at a pier.

NOMINAL LIFTING CAPACITY 12,000 tons at 12-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING SS, DD, CL, LST, CM, T3, and so on.

KEEL BLOCKS 4′ 0″ high, 3′ 0″ wide, 1′ 6″ long timber keel blocks, spaced 2′ 11″ c to c.

BILGE BLOCKS Movable bilge blocks 4′ 0″ high, 4′ 0″ wide, 1′ 4″ long, spaced 12′ 0″ c to c.

CRANES None.

CAPSTANS Four reversible electric capstans, 2 on each wing-wall deck, rated 10,000 lb at 30 fpm.

MOORING Four mooring spuds on 1 of the outboard sides for securing dock to mooring guides on pier.

BALLAST COMPARTMENTS There are 24 ballast compartments, 2 port and 2 starboard in each section.

CREW'S QUARTERS None.

SHOP FACILITIES None.

MAIN PUMPS 14-in. discharge pumps rated 3,500 gpm at 20-ft head and 5,300 gpm at 13-ft head; 24 pumps, 4 per section.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Total demand	885 kva	221 kva
Normal demand	796 kva	221 kva
Power factor (estimated)	0.90	0.90

(b) *Power Generation*

No generating equipment on board. All power is furnished from shore supply.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power for dock equipment.
No lighting circuits provided.
No ship service circuits provided.

FUEL OIL None.

SALT WATER No facilities provided.

FRESH WATER No facilities provided.

COMPRESSED AIR No facilities provided.

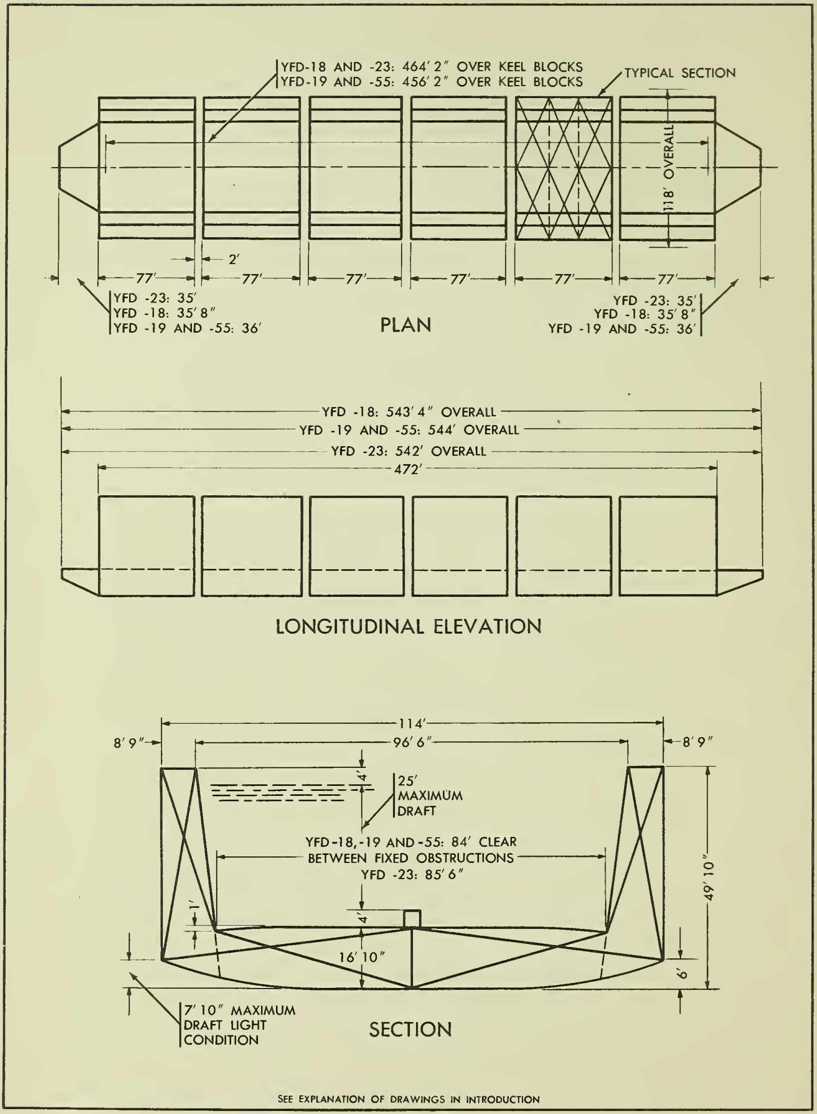
STEAM No facilities provided.

WATER LEVEL INDICATING SYSTEM Pneumatic type with indicators located in the control house on shore. There is 1 mercury gage for each ballast compartment.

SEWAGE SYSTEM None provided.

WELDING SYSTEM No facilities provided.

YFD-18, YFD-19, YFD-23, AND YFD-55



SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

YFD-18, YFD-19, YFD-23, AND YFD-55

These are six-section timber docks. They are capable of being towed in individual sections at sea and are suitable for operation at a pier.

NOMINAL LIFTING CAPACITY 10,500 tons at 12-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING DD, SS, DE, LST, CM, T3, and certain CL's, and so on.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 1′ 2″ long timber keel blocks, spaced 4′ 0″ c to c.

BILGE BLOCKS Movable bilge blocks 4′ 0″ high, 4′ 0″ wide, 1′ 2″ long, spaced 8′ 0″ and 12′ 0″ c to c.

CRANES None.

CAPSTANS Six electric capstans, nonreversible (3 on each wing wall), each rated 10,000 lb at 25 fpm.

MOORING Twelve mooring spuds on one of the outboard sides for securing dock to mooring jaws on pier.

BALLAST COMPARTMENTS There are 36 ballast compartments, 3 port and 3 starboard in each section.

CREW'S QUARTERS None.

SHOP FACILITIES None.

PUMPS YFD-18: Twelve 18-in. vertical, mixed-flow discharge pumps rated 9,900 gpm at 25-ft head and 12,000 gpm at 13-ft head; 2 pumps per section.

YFD-19 and YFD-55: Thirty-six 10-in. vertical, mixed-flow discharge pumps rated 2,500 gpm at 30-ft head and 3,500 gpm at 20-ft head; 6 pumps per section.

YFD-23: Thirty-six 12-in. vertical, mixed-flow discharge pumps rated 2,500 gpm at 30-ft head and 3,500 gpm at 20-ft head; 6 pumps per section.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
YFD-18:		
Total demand	1,250 kva	340 kva
Normal demand	1,120 kva	306 kva
Power factor (estimated)	0.80	0.80
YFD-19, YFD-23, and YFD-55:		
Total demand	1,190 kva	340 kva
Normal demand	1,070 kva	306 kva
Power factor (estimated)	0.80	0.80

(b) *Power Generation*

No generating equipment on board. All power is furnished from shore supply.

(c) *Distribution System*

YFD-18:

440-v, 3-ph, 60-cy AC for dock equipment, welding, transformers, and so on.
110/220-v, single-phase, 60-cy AC for lighting, convenience outlets, and so on.

YFD-19, YFD-23, and YFD-55:

440-v, 3-ph, 60-cy AC for dock equipment, welding, transformers, and so on.
115/230-v, single-phase, 60-cy AC for lighting, convenience outlets, and so on.
115/230-v, single-phase, 60-cy AC for ship service.

No DC power available on these docks.

FUEL OIL None.

SALT WATER Shore connections are provided for salt-water supply.

FRESH WATER Shore connections are provided for fresh water.

COMPRESSED AIR Shore connections are provided for compressed air.

STEAM YFD-18: not provided with shore connections, but dock is equipped with a 3-in. piping connection that extends through one of the wing walls. Steam from shore supplied through this piping to ship in dock.

YFD-19 and YFD-23: not provided with shore connections.

YFD-55: shore connections are provided for steam.

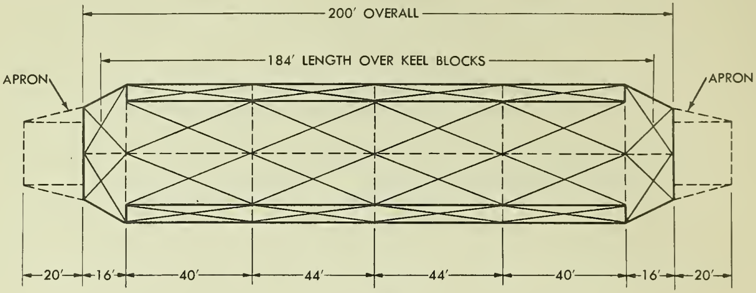
WATER LEVEL INDICATING SYSTEM YFD-18, YFD-19, and YFD-55: pneumatic-electric type with dial gages located in control house on shore. There is 1 gage for each ballast compartment and 1 for each of the 2 draft measuring points in each section.

YFD-23: not provided with water level or draft indicators.

SEWAGE SYSTEM None.

WELDING SYSTEM Two outlets per section, each 100-amp, 600-v, 3-ph, 60-cy AC. No equipment provided.

YFD-28 AND YFD-42



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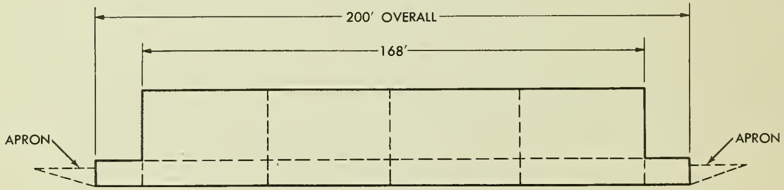
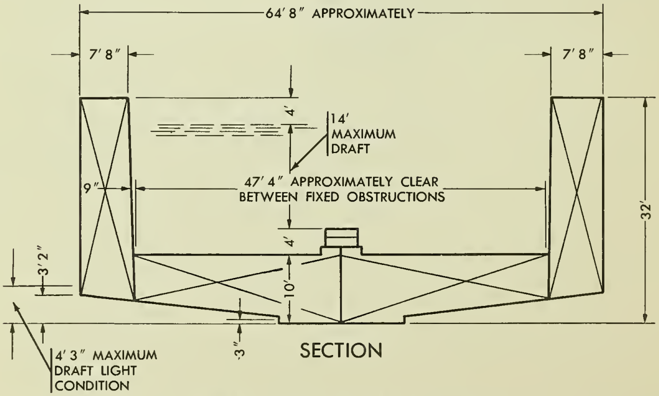


LONGITUDINAL ELEVATION


64′ 8″ APPROXIMATELY
7′ 8″
7′ 8″
4′
14′ MAXIMUM DRAFT
47′ 4″ APPROXIMATELY CLEAR BETWEEN FIXED OBSTRUCTIONS
9″
4′
32′
3′2″
10′
3″
4′ 3″ MAXIMUM DRAFT LIGHT CONDITION

SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

YFD-28 AND YFD-42

These are one-piece timber docks. They are capable of being towed at sea and are suitable for operation at a pier.

NOMINAL LIFTING CAPACITY 1,000 tons at 12-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING ATR, YN, AM, and so on.

KEEL BLOCKS 4′ 0″ high, 3′ 6″ wide, 1′ 0″ long timber keel blocks, spaced 4′ 0″ c to c.

BILGE BLOCKS 4′ 0″ high, 3′ 6″ wide, 1′ 0″ long movable bilge blocks, spaced 12′ 0″ c to c.

CRANES None.

CAPSTANS Four electric reversible capstans, each rated 5,000 lb at 15 fpm and 1,250 lb at 60 fpm.

MOORING Mooring spuds provided on one of the outboard sides for securing dock to mooring jaws on pier; YFD-28 has 2 spuds and YFD-42 has 3 spuds.

BALLAST COMPARTMENTS There are 20 ballast compartments, 10 port and 10 starboard.

CREW'S QUARTERS None.

SHOP FACILITIES None.

MAIN PUMPS Two 14-in. vertical, mixed-flow discharge pumps, each rated 7,000 gpm at 17-ft head and 4,500 gpm at 20-ft head; 1 pump port and 1 pump starboard.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Total demand	111 kva	66 kva
Normal demand	111 kva	63 kva
Power factor (estimated)	0.90	0.70

(b) *Power Generation*

No generating equipment on board; all power furnished from shore supply.

(c) *Distribution System*

440-v, 3-ph, 60-cy AC for dock equipment and welding.
110/220-v, single-phase, 60-cy AC for lighting.
No DC power available.

FUEL OIL None.

SALT WATER Shore connections provided for salt water.

YFD-28 AND YFD-42

FRESH WATER Shore connections provided for fresh water.

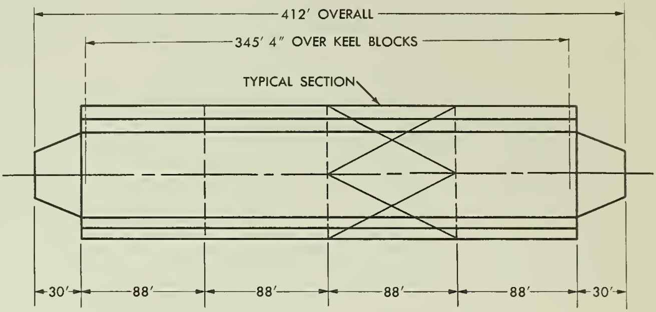
COMPRESSED AIR Shore connections provided for compressed air.

STEAM None.

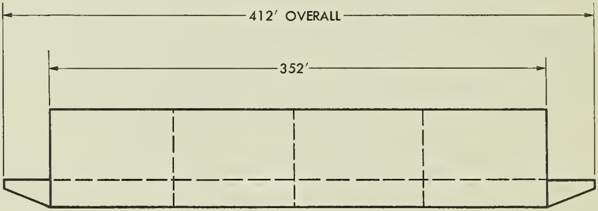
WATER LEVEL INDICATING SYSTEM Pneumatic type with gages located at control-board stations atop wing walls, 1 gage for each ballast compartment and 1 gage for each of the 2 draft measuring points.

SEWAGE DISPOSAL SYSTEM None.

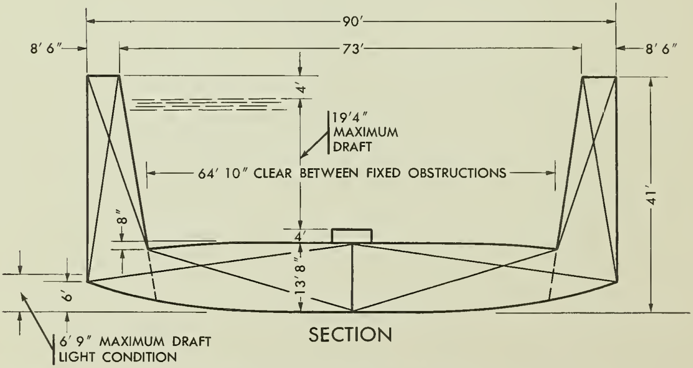
WELDING SYSTEM No outlets or equipment provided.



PLAN



LONGITUDINAL ELEVATION


90′
8′ 6″
73′
8′ 6″
4′
19′4″ MAXIMUM DRAFT
64′ 10″ CLEAR BETWEEN FIXED OBSTRUCTIONS
41′
8″
4′
13′ 8″
6′
6′ 9″ MAXIMUM DRAFT LIGHT CONDITION

SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

YFD-54

This is a one-piece timber dock. It is capable of being towed at sea and is suitable for operation at a pier.

NOMINAL LIFTING CAPACITY 5,000 tons at 12-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING DD, DE, SS, LST, and so on.

KEEL BLOCKS 4′ 0″ high, 4′ 0″ wide, 1′ 2″ long timber keel blocks, spaced 4′ 0″ c to c.

BILGE BLOCKS 4′ 0″ high, 4′ 0″ wide, 1′ 2″ high movable bilge blocks, spaced 8′ 0″ and 12′ 0″ c to c.

CRANES None.

CAPSTANS Four electric, nonreversing capstans, 2 on each wing wall, each rated 10,000 lb at 30 fpm.

MOORING Four mooring spuds on one of the outboard sides for securing dock to mooring jaws on pier.

BALLAST COMPARTMENTS There are 8 ballast compartments, 4 port and 4 starboard.

CREW'S QUARTERS None.

SHOP FACILITIES None.

MAIN PUMPS Four 18-in. vertical, mixed-flow discharge pumps, each rated 11,700 gpm at 16-ft head and 8,500 gpm at 24-ft head; 2 pumps port and 2 pumps starboard.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Total demand	430 kva	225 kva
Normal demand	390 kva	205 kva
Power factor (estimated)	0.85	0.80

(b) *Power Generation*

No generating equipment on board. All power is furnished from shore supply.

(c) *Distribution System*

440-v, 3-ph, 60-cy AC for dock equipment, welding outlets, and lighting transformer.
110/220-v, single-phase, 60-cy AC for lighting.
115/230-v DC for ship service.

FUEL OIL None.

SALT WATER None.

FRESH WATER Shore connections provided for fresh water.

COMPRESSED AIR Shore connections provided for compressed air.

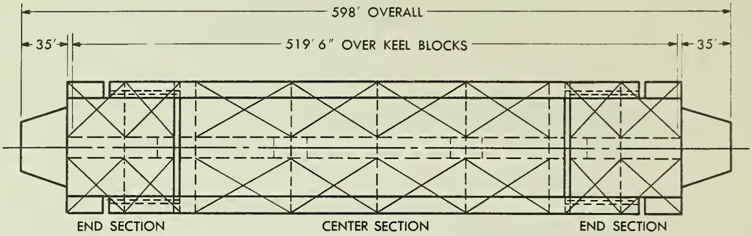
STEAM None.

WATER LEVEL INDICATING SYSTEM Pneumatic type with mercury gages mounted on panel in control house located on shore; 1 gage for each of the 8 ballast compartments and 1 for each of the 4 draft measuring points.

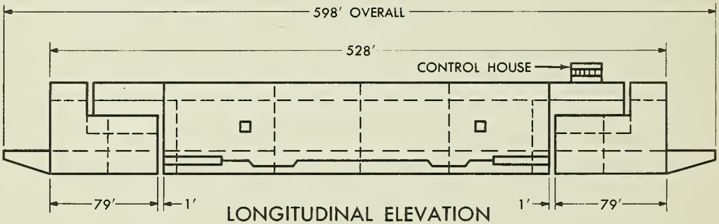
SEWAGE DISPOSAL SYSTEM None.

WELDING SYSTEM Six 200-amp, 440-v, 3-ph, 60-cy, AC outlets provided. No equipment provided.

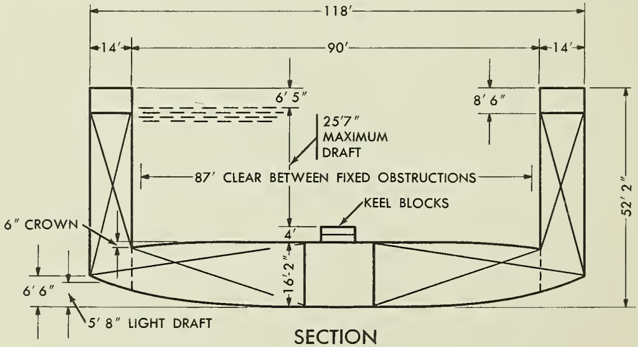
YFD-68 THROUGH YFD-71



PLAN



LONGITUDINAL ELEVATION



SECTION

NOTE: PROVISION IS MADE FOR OBTAINING, IN AN EMERGENCY,
A SECONDARY MAXIMUM DRAFT OF 27′9″ OVER 4-FT KEEL BLOCKS
AND AN ABSOLUTE MAXIMUM DRAFT OF 29′11″ OVER 4-FT KEEL BLOCKS.

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

YFD-68 THROUGH YFD-71

These are three-piece, open-end steel docks suitable for operation at a pier. They are towed at sea with the end sections stowed within the center section.

NOMINAL LIFTING CAPACITY 14,000 tons at 18-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING CL, CVE, C4, T3, and so on.

KEEL BLOCKS 4′ 0″ high, 4′ 6″ wide, 3′ 6″ long composite timber and concrete keel blocks, spaced at 6′ 0″ c to c. Side keel blocks and grillages for double docking of destroyers also are provided.

BILGE BLOCKS 3′ 8″ high (approx), 4′ 0″ wide, 1′ 0″ long movable timber bilge blocks, spaced 8′ 0″ c to c. Hauling cribs for docking of cruisers also are provided.

CRANES None.

CAPSTANS Eight 2-speed reversible power capstans, 4 on each wing wall, each rated 15,000 lb at 40 fpm and 4,000 lb at 80 fpm.

MOORING YFD-69 has 3 mooring spuds; YFD-68, YFD-70, and YFD-71 have 9 mooring spuds each for securing dock to mooring guides on pier. Each dock also provided with mooring staples (for use with chain and anchor) for mooring dock offshore, if required.

BALLAST COMPARTMENTS Total of 16 main ballast compartments, 8 in center section and 4 in each end section. In addition there are 2 trimming tanks (1 in each end of the center section buoyancy compartment) that aid in trimming the dock and in providing greater dock submergence (for emergency dockings only).

CREW'S QUARTERS None.

SHOP FACILITIES None.

MAIN PUMPS Four 30-in. discharge pumps in the center section, each rated 29,000 gpm at 14-ft head and 24,000 gpm at 27-ft head.
Four 18-in. discharge pumps, 2 in each end section, each rated 12,000 gpm at 14-ft head and 9,500 gpm at 27-ft head.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Total demand	1,300 kva	1,100 kva
Normal demand	1,170 kva	880 kva
Power factor (estimated)	0.80	0.80

(b) *Power Generation*

Electric power for operating the dock is obtained from shore supply.

(c) *Distribution System*

440-v, 3-ph, 60-cy, AC power for dock equipment, welding, ship service, and lighting transformers.
120/208-v, 3-ph, 60-cy, AC power for dock lighting.

FUEL OIL None.

SALT WATER Shore connections provided for salt water. No fire pumps on dock.

FRESH WATER Shore connections provided for fresh water. No distilling plant on dock.

COMPRESSED AIR Shore connections provided for compressed air. No built-in compressors on dock.

STEAM Shore connections provided for steam. No boilers on dock.

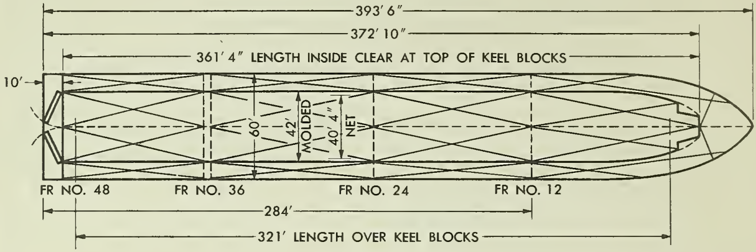
WATER LEVEL INDICATING SYSTEM YFD-69: pneumatic-electric type with dial gages in the control house, 1 for each main ballast compartment and 1 for each of the 2 draft measuring points.

YFD-68, YFD-70, YFD-71: pneumatic type with mercury gages in the control house, 1 for each main ballast compartment and 1 for each of the 2 draft measuring points.

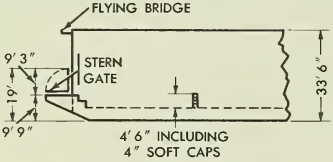
SEWAGE DISPOSAL SYSTEM None provided.

WELDING EQUIPMENT Ten outlets per wing wall, each 460-v, 200-amp, 4-pole, 60-cy AC. No equipment provided.

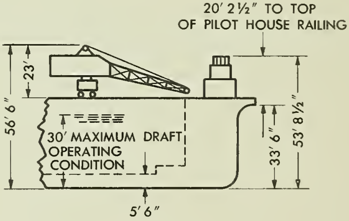
YFD-82



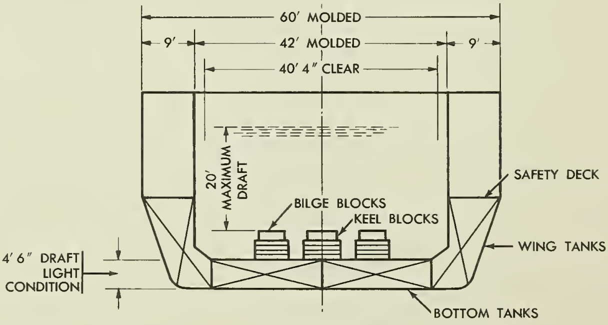
PLAN



STERN ELEVATION



BOW ELEVATION



MIDSECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

YFD-82

This is a one-piece steel dock with closed bow and stern gate. It is capable of being towed at sea and (when fully outfitted) can be operated offshore. This dock was partly demilitarized in 1951 and operates with the services indicated below supplied from shore.

NOMINAL LIFTING CAPACITY 2,200 tons.

SUITABLE IN GENERAL FOR DOCKING DD and SS.

SEA TOW This dock is designed for sea tow. Hydraulic rudder operators have been secured and the 4 rudders converted to serve as fixed skegs by welding I-beams between the steering quadrants.

KEEL BLOCKS Eighty-one oak keel blocks 4′ 6″ high (including 4-in. thick soft caps), 4′ 0″ wide, 1′ 0″ long, spaced 4′ 0″ c to c on dock centerline.

BILGE BLOCKS Forty hauling bilge blocks, 4′ 4″ high, 4′ 0″ wide, 1′ 0″ long, 20 on each side of centerline, spaced 12′ 0″ c to c.

CRANES Two traveling portal cranes rated 3 tons at 29′ 0″ maximum reach, powered with 70-hp diesel engine; 1 crane on each wing wall.

CAPSTANS One headline capstan on A deck at bow and 2 capstans on each wing wall. All are rated 12,000-lb pull at 10 fpm and 3,000-lb pull at 40 fpm and are powered by 10-hp DC electric motors. They are nonreversible when power operated and reversible when hand operated.

MOORING Twelve anchorage eyebolts for 1¾″ chain, 6 on each side of dock for attaching spread-mooring anchors. Five mooring spuds on port side for mooring alongside pier. One double-wildcat windlass, powered by two 68-hp DC electric motors, for handling two 6,000-lb bow anchors.

BALLAST COMPARTMENTS Wing tanks, 4 port, 4 starboard. Pontoon tanks, 4 port, 4 starboard.

CREW'S QUARTERS Dock has unfurnished living spaces including galley, messroom, officers' staterooms, crew's quarters, and laundry to accommodate 4 officers and 33 enlisted men when outfitted. Galley and laundry are secured, and for practical purposes the equipment (which is quite old) is considered nonexistent except for short-time use such as during tow of the drydock to a new duty station.

SHOP FACILITIES Drill press, valve-face grinder, 2-wheel bench grinder, engine lathe, and 2 milling machines in wing-wall shop space.

MAIN PUMPS Four 20-in. discharge centrifugal-type pumps driven by 50-hp DC electric motors, each pump rated 5,000 gpm at 15-ft head.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Maximum demand	98 kw	247 kw
Normal demand	98 kw	223 kw

(b) *Power Generation*
Two 200-kw, 120/240-v, diesel-driven DC generators.
One 50-kw, 120/240-v, diesel-driven DC generator.
One 75-kw, 460-v, 3-ph, AC generator powered by one 125-hp DC motor.
(All above diesels are battery-starting type.)

(c) *Distribution System*
Eleven 250-v, DC panels for dock power and lighting.
Thirteen 115/230-v, DC outlets for ship service.
One 230/460-v, 3-ph, AC outlet for ship service.
One 115-v, 3-ph, AC outlet for ship service.

(d) *Shore Connections*
One 200-amp, 440-v, 3-ph, AC terminal block.
One 500-amp, 115/250-v, DC terminal block.

FUEL OIL 13,820-gal main storage capacity.

SALT WATER Fire mains and flushing water mains designed for 100 psi are installed on the drydock. Water under pressure supplied from shore.

FRESH WATER 13,820-gal fresh-water storage tanks and distribution piping to service outlets. Fresh water under pressure supplied from shore.

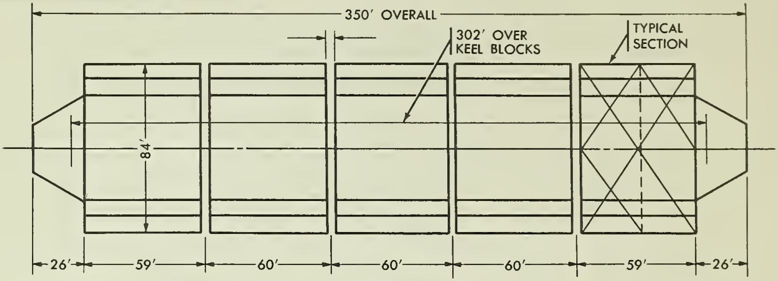
COMPRESSED AIR Distribution piping for compressed air at 100 psi. Shore connections on top deck aft, port and starboard; compressed air supplied from shore.

STEAM Steam heaters and steam piping installed on dock. Steam supplied from shore.

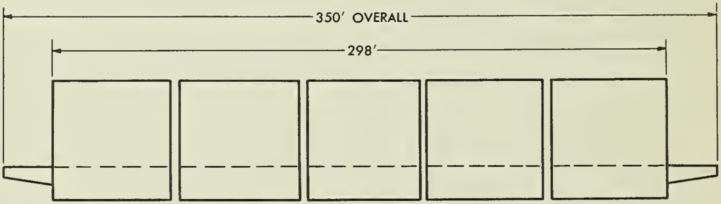
WATER LEVEL INDICATING SYSTEM Siphon bellows, liquid transmission type, actuated by floats located in the respective bottom and wing ballast tanks. Indicating gages located in the port pumproom.

WELDING SYSTEM None.

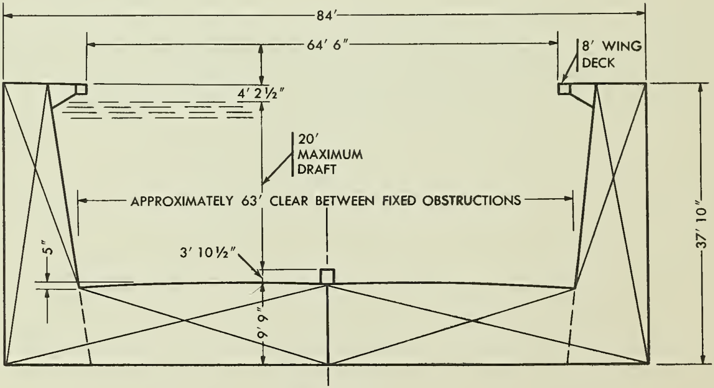
SEWAGE DISPOSAL Collecting mains for drydock and ship sewage connect to 2 compressed-air-type (25-psi) sewage ejectors, each rated 50 gpm. Compressed air is supplied from the 100-psi service mains through a pressure-reducing valve. Discharge connections located both port and starboard for overboard discharge or connection to yard sewage system.



PLAN



LONGITUDINAL SECTION



SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

CGFD-1

This is a five-section, self-docking unit constructed of timber pontoons and steel wing walls. The sections are capable of being towed individually at sea. The dock is suitable for operation at a pier only. It is equipped for shore connections on one end only.

NOMINAL LIFTING CAPACITY 3,000 tons at 10½-in. pontoon freeboard.

SUITABLE IN GENERAL FOR DOCKING DD, SS, LST, AVP, AT, AK, and so on, and all types and sizes of Coast Guard vessels excluding Wind Class WAGB's.

KEEL BLOCKS 3′ 10½″ high, 1′ 0″ wide, 3′ 0″ long built-up timber keel blocks, spaced 4′ 0″ c to c.

BILGE BLOCKS Movable bilge blocks, spacing varies 9′ 8″ to 16′ 6″ c to c.

CRANES None. Serviced by 15-ton 70-ft traveling crane on adjacent pier.

CAPSTANS One electric capstan rated 10,000 lb at 30 fpm, and 3 hand capstans on 1 wing-wall deck; 4 hand capstans on other wing deck.

MOORING Three mooring spuds on one of the outboard sides for securing dock to guides on pier.

BALLAST COMPARTMENTS Twenty ballast compartments, 2 port and 2 starboard in each section.

CREW'S QUARTERS None.

SHOP FACILITIES None.

PUMPS 10-in. discharge pumps rated 4,250 gpm at 5-ft head; 4 pumps per section.

ELECTRICAL

(a) *Power Requirements*

	Dewatering	*Ship repair*
Total demand	193 kva	100 kva
Normal demand	96.8 kva	80 kva
Power factor (estimated)	0.80	0.80

(b) *Power Generation*

No generating equipment on board. All power is furnished from shore supply.

(c) *Distribution System*

220-v, 3-ph, 60-cy, AC power for dock equipment.
110/220-v, single-phase, 60-cy AC for ship service and lighting.
120-v DC for ship service.

FUEL OIL None.

SALT WATER None.

FRESH WATER Shore connections provided for fresh water.

COMPRESSED AIR Shore connections provided for compressed air.

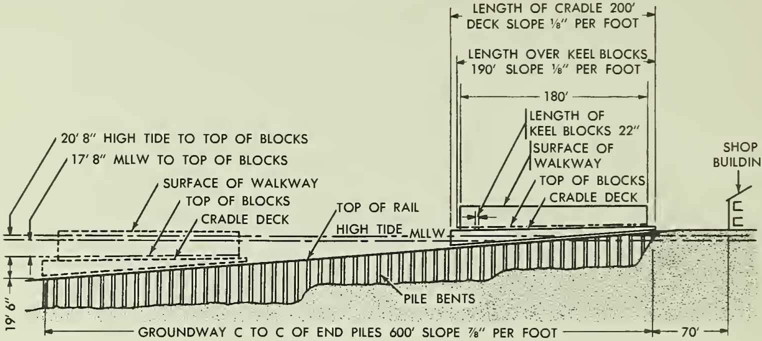
STEAM Shore connections provided for steam.

WELDING EQUIPMENT None provided. Power outlets are provided for portable welding equipment.

SEWAGE DISPOSAL SYSTEM No provision for disposal of sewage from dock. Sewage from ship disposed of through buckets attached to sides of vessels and hosing waste between sections of drydock.

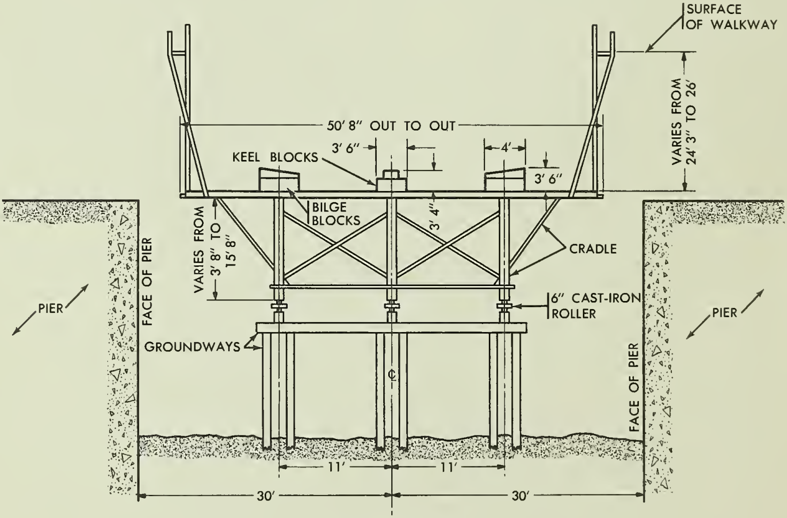
MARINE RAILWAYS

ADAK, ALASKA, NAVAL STATION
MARINE RAILWAY



ELEVATION

(LOOKING WEST)



TYPICAL SECTION

(LOOKING INSHORE)

HIGH TIDE EL 3.0'
MLLW EL 0.0
MEAN TIDAL RANGE 3.0'

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

ADAK, ALASKA, NAVAL STATION
MARINE RAILWAY

CAPACITY IN TONS 1,000 long[1]

SUITABLE FOR DOCKING
Service craft such
as YTB, YOG, YFN, YO

WHARF Pier on two sides

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—piles and wood
Inshore —piles and wood

WIDTH OF TRACK 22′ 0″

NUMBER OF RAILS Three

SLOPE OF TRACK ⅞ in. per ft

CRADLE

SLOPE OF DECK ⅛ in. per ft

SLOPE AT TOP OF KEEL BLOCKS
⅛ in. per ft

MATERIAL
Cradle framing —wood
Superstructure framing—wood

BRIDGE AT BOW Yes

CAPSTAN AT BOW One
Pull in lb
Speed in fpm 3

UPHAUL SPEED 5 fpm

DOWNHAUL SPEED 10 fpm

ROLLERS
Diam 6″
No. of sets 3

HAULING MECHANISM

MOTOR Diesel

HORSEPOWER 170 at 900 rpm

VOLTS

PHASE

CYCLES

KILOWATTS

UPHAUL CABLE 1¾″ diam

DOWNHAUL CABLE 1″ diam

CRANE

Mobile yard crane

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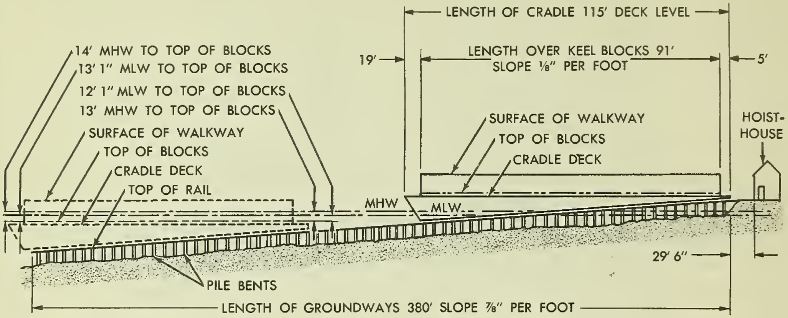
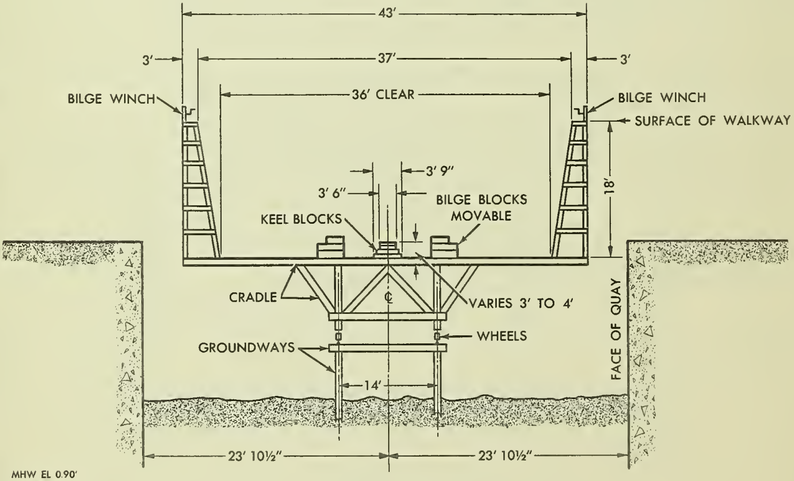
[1] Limited to 800 tons because of deficiencies in hauling mechanism.

ANNAPOLIS, MD., NAVAL STATION
MARINE RAILWAY



ELEVATION
(LOOKING WEST)



MHW EL 0.90′
MLW EL 0.0
MEAN TIDAL RANGE 0.90′
KEEL BLOCKS 4′ C TO C
BILGE BLOCKS 12′ C TO C

TYPICAL SECTION
(LOOKING OFFSHORE)

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

ANNAPOLIS, MD., NAVAL STATION
MARINE RAILWAY

CAPACITY IN TONS 175 long

SUITABLE FOR DOCKING
Station craft and barges

WHARF On one side

GROUNDWAY

FOUNDATION Piles

CONSTRUCTION MATERIALS
Offshore—wood piles and wood bents
Inshore —concrete

WIDTH OF TRACK 14′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK 7/8 in. per ft

CRADLE

SLOPE OF DECK Level

SLOPE AT TOP OF KEEL BLOCKS
1/8 in. per ft

MATERIAL
Cradle framing —wood
Superstructure framing—wood

BRIDGE AT BOW None

CAPSTAN AT BOW None

UPHAUL SPEED 10 fpm

DOWNHAUL SPEED 10 fpm

WHEELS 68, 12″ diam

HAULING MECHANISM

MOTOR 1 electric

HORSEPOWER 50

VOLTS 440

PHASE 3

CYCLES 60

KILOWATTS 40

UPHAUL CABLE 1½″ diam

DOWNHAUL CABLE 1″ diam

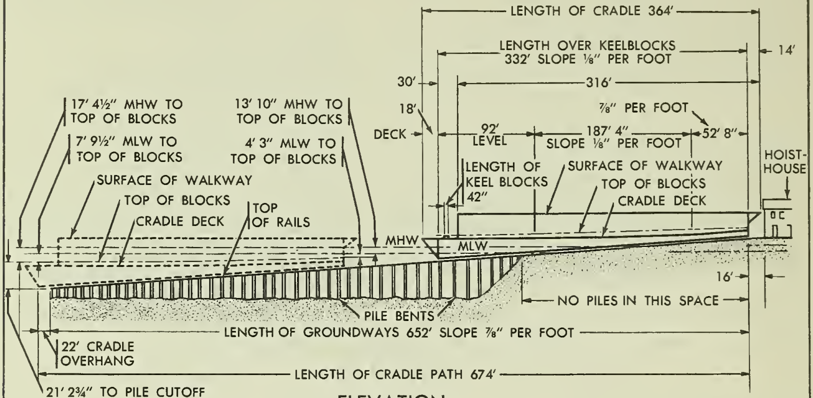
CRANE

Use mobile yard cranes

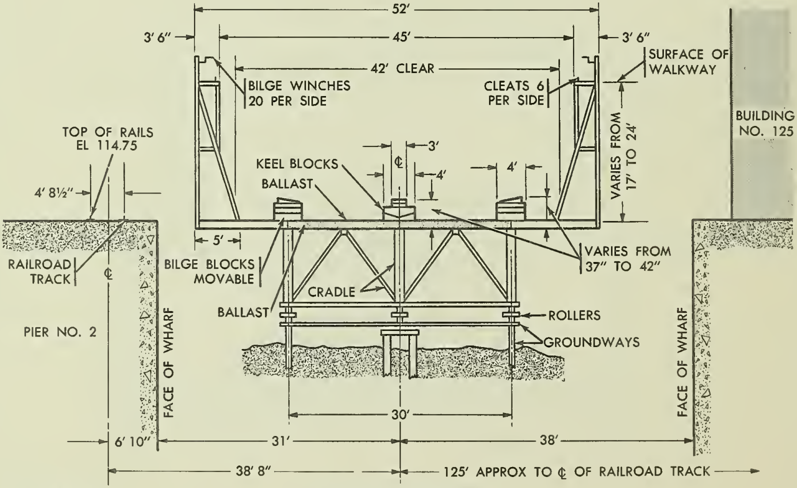
FIRE PROTECTION

WATER
Gal per min 700
Pressure in psi 70

BOSTON, MASS., NAVAL SHIPYARD
MARINE RAILWAY NO. 11


LENGTH OF CRADLE 364′
LENGTH OVER KEELBLOCKS 332′ SLOPE ⅛″ PER FOOT
14′
30′
316′
18′
⅞″ PER FOOT
DECK
92′ LEVEL
187′ 4″ SLOPE ⅛″ PER FOOT
52′ 8″
HOIST-HOUSE
17′ 4½″ MHW TO TOP OF BLOCKS
13′ 10″ MHW TO TOP OF BLOCKS
7′ 9½″ MLW TO TOP OF BLOCKS
4′ 3″ MLW TO TOP OF BLOCKS
SURFACE OF WALKWAY
TOP OF BLOCKS
CRADLE DECK
TOP OF RAILS
LENGTH OF KEEL BLOCKS 42″
SURFACE OF WALKWAY
TOP OF BLOCKS
CRADLE DECK
MHW
MLW
16′
NO PILES IN THIS SPACE
PILE BENTS
LENGTH OF GROUNDWAYS 652′ SLOPE ⅞″ PER FOOT
22′ CRADLE OVERHANG
LENGTH OF CRADLE PATH 674′
21′ 2¾″ TO PILE CUTOFF

ELEVATION
(LOOKING WEST)



MHW EL 109.6′
MLW EL 100.0′
MEAN TIDAL RANGE 9.6′
KEEL BLOCKS 4′ C TO C
BILGE BLOCKS 12′ C TO C

TYPICAL SECTION
(LOOKING INSHORE)

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

BOSTON, MASS., NAVAL SHIPYARD
MARINE RAILWAY NO. 11

CAPACITY IN TONS 3,000 long[1]

SUITABLE FOR DOCKING
SS, DD, DE, ANF, and Fleet tugs

WHARF On one side

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—wood and wood piles
Inshore —wood and wood piles

WIDTH OF TRACK 30′ 0″

NUMBER OF RAILS Three

SLOPE OF TRACKS ⅞ in. per ft

CRADLE

SLOPE OF DECK
Level, ⅛ in. per ft,
and ⅞ in. per ft

SLOPE AT TOP OF KEEL BLOCKS
⅛ in. per ft

MATERIAL
Cradle framing —wood
Superstructure framing—wood

BRIDGE AT BOW Yes

CAPSTAN AT BOW None

UPHAUL SPEED 9 fpm

DOWNHAUL SPEED 9 fpm

ROLLERS
Diam 4″ and 3¾″
No. of sets 93

HAULING MECHANISM

MOTOR Electric

HORSEPOWER 200

VOLTS 220/2,300

PHASE 3

CYCLES 60

KILOWATTS 149.2

UPHAUL CHAIN 4 chains, 2¼″ diam

DOWNHAUL CHAIN 4 chains, 1″ diam

CRANE

30-ton locomotive crane
15-ton mobile crane

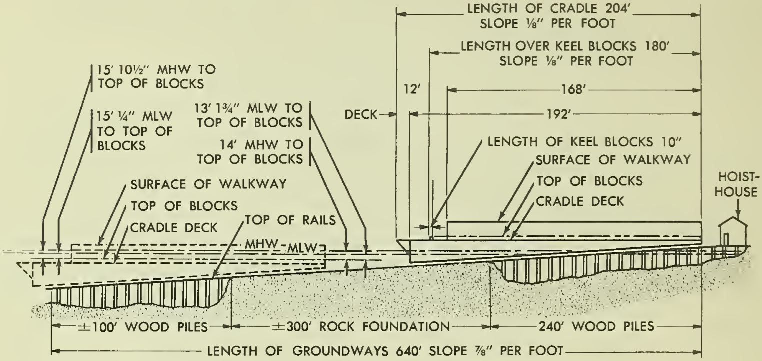
FIRE PROTECTION

WATER
Gal per min 3,000
Pressure in psi 20

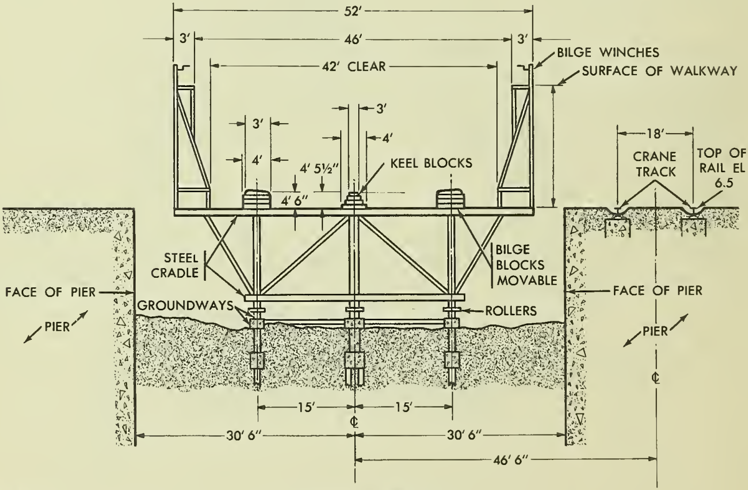
---

[1] Capacity at present limited to 2,000 tons because of deficiencies in the hauling mechanism.

CRISTOBAL, C. Z.
MARINE RAILWAY NO. 2



ELEVATION
(VIEW LOOKING NORTH)



TYPICAL SECTION
(VIEW LOOKING OFFSHORE)

MHW EL +0.45'
MLW EL −0.41'
MEAN TIDAL RANGE 0.86'
KEELBLOCKS 4' C TO C
BILGE BLOCKS 12' C TO C

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

CRISTOBAL, C. Z.

MARINE RAILWAY NO. 2[1]

CAPACITY IN TONS 1,000 long

SUITABLE FOR DOCKING
Patrol craft, small auxiliaries, and tugs

WHARF On one side

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—concrete and wood piles
Inshore —concrete (part on rock) and wood piles

WIDTH OF TRACK 30′ 0″

NUMBER OF RAILS Three

SLOPE OF TRACK ⅞ in. per ft

CRADLE

SLOPE OF DECK ⅛ in. per ft

SLOPE AT TOP OF KEEL BLOCKS
⅛ in. per ft

MATERIAL
Cradle framing —steel
Superstructure framing—steel

BRIDGE AT BOW Yes

CAPSTAN AT BOW None

UPHAUL SPEED Variable control

DOWNHAUL SPEED Variable control

ROLLERS
Diam 4″
No. of sets 27 each rail, 15 rollers per set

HAULING MECHANISM

MOTOR 1 electric, 750 rpm

HORSEPOWER 200

VOLTS 2,200

PHASE 3

CYCLES 25

KILOWATTS

UPHAUL CHAIN 2⅜″ diam

DOWNHAUL CHAIN 1″ diam

CRANE

FOR MAXIMUM LIFT AT CENTERLINE
Type of crane—portal
Height of hook above track 48′
Radius 20′
Capacity 25 tons

FOR MAXIMUM HEIGHT OF HOOK AT CENTERLINE
Type of crane—portal
Height of hook above track 48′
Radius 60′
Capacity 6.3 tons

FIRE PROTECTION

WATER
Gal per min 1,000
Pressure in psi 70

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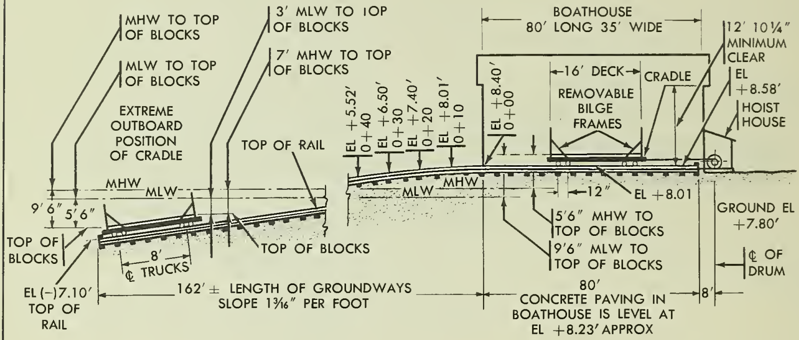
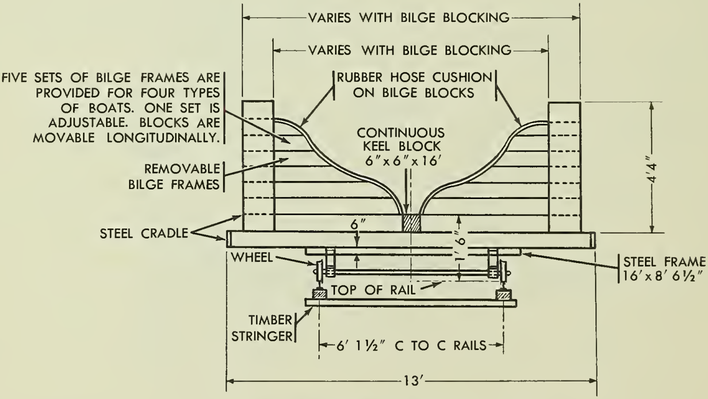
[1] Leased to Panama Canal Co.

DAVISVILLE, R. I., NAVAL CONSTRUCTION BATTALION CENTER
MARINE RAILWAY



ELEVATION
(VIEW LOOKING SOUTH)


FIVE SETS OF BILGE FRAMES ARE PROVIDED FOR FOUR TYPES OF BOATS. ONE SET IS ADJUSTABLE. BLOCKS ARE MOVABLE LONGITUDINALLY.

TYPICAL SECTION OF CRADLE
(VIEW LOOKING OFFSHORE)

MHW EL +3.80'
MLW EL −0.20'
MEAN TIDAL RANGE 4.00'

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

DAVISVILLE, R. I., NAVAL CONSTRUCTION BATTALION CENTER
MARINE RAILWAY

CAPACITY IN TONS 10 long

SUITABLE FOR DOCKING
Small craft

WHARF None

GROUNDWAY

FOUNDATION Wood ties on ground

CONSTRUCTION MATERIALS
Offshore—ties and rails
Inshore —ties and rails

WIDTH OF TRACK 6′ 1½″

NUMBER OF RAILS Two

SLOPE OF TRACK 1¼ in. per ft

CRADLE

SLOPE OF DECK 1¼ in. per ft

SLOPE AT TOP OF KEEL BLOCKS
1¼ in. per ft

MATERIAL
Cradle framing —wood
Superstructure framing—wood

BRIDGE AT BOW Yes

CAPSTAN AT BOW None

UPHAUL SPEED 30 fpm

DOWNHAUL SPEED 20 fpm

WHEELS
Diam
Number—4 each side

HAULING MECHANISM

MOTOR 1 diesel

HORSEPOWER 20

VOLTS

PHASE

CYCLES

KILOWATTS

UPHAUL CABLE ⅞″ diam

DOWNHAUL CABLE ⅜″ diam

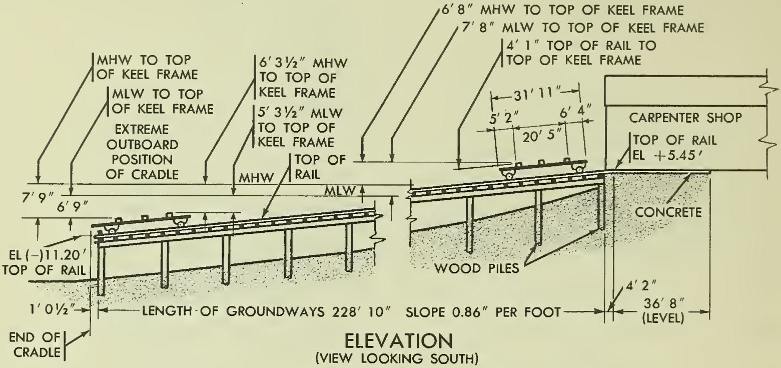
CRANE

Truck crane, 8½- to 20-ton
Crawler crane, 7- to 40-ton

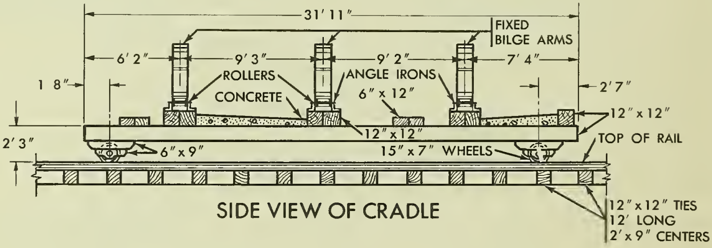
FIRE PROTECTION

2,000 gpm at 60–70 psi

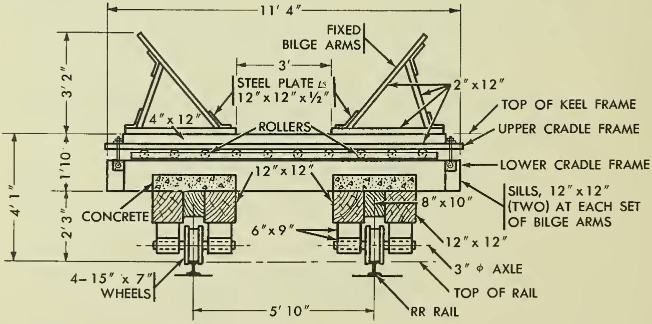
GUANTANAMO BAY, CUBA, NAVAL BASE
MARINE RAILWAY NO. 2


6′ 8″ MHW TO TOP OF KEEL FRAME
7′ 8″ MLW TO TOP OF KEEL FRAME
4′ 1″ TOP OF RAIL TO TOP OF KEEL FRAME
MHW TO TOP OF KEEL FRAME
MLW TO TOP OF KEEL FRAME
6′ 3½″ MHW TO TOP OF KEEL FRAME
5′ 3½″ MLW TO TOP OF KEEL FRAME
EXTREME OUTBOARD POSITION OF CRADLE
TOP OF RAIL
MHW
MLW
31′ 11″
5′ 2″
6′ 4″
20′ 5″
CARPENTER SHOP
TOP OF RAIL EL +5.45′
CONCRETE
7′ 9″
6′ 9″
EL (−)11.20′ TOP OF RAIL
WOOD PILES
4′ 2″
1′ 0½″
LENGTH OF GROUNDWAYS 228′ 10″ SLOPE 0.86″ PER FOOT
36′ 8″ (LEVEL)
END OF CRADLE

ELEVATION
(VIEW LOOKING SOUTH)



SIDE VIEW OF CRADLE



SECTION OF CRADLE

MHW EL 1.00′
MLW EL 0.00′
MEAN TIDAL RANGE 1.00′

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

GUANTANAMO BAY, CUBA, NAVAL BASE

MARINE RAILWAY NO. 2

CAPACITY IN TONS 15

SUITABLE FOR DOCKING
Small boats

WHARF None

GROUNDWAY

FOUNDATION Wood piles and ties

CONSTRUCTION MATERIALS
Offshore—wood piles and ties
Inshore —wood piles and ties

WIDTH OF TRACK 6′ 10″

NUMBER OF RAILS Two

SLOPE OF TRACKS 1 in. per ft

CRADLE

SLOPE OF DECK 1.17 in. per ft

SLOPE AT TOP OF KEEL BLOCKS
1.17 in. per ft

MATERIAL
Cradle framing —wood and concrete
Superstructure framing—none

BRIDGE AT BOW None

CAPSTAN AT BOW None; 1 winch at head

UPHAUL SPEED 20 fpm

DOWNHAUL SPEED 20 fpm

WHEELS
Diam 14″
Number—4

HAULING MECHANISM

MOTOR 1 air-powered steam engine

HORSEPOWER

VOLTS

PHASE

CYCLES

KILOWATTS

UPHAUL CABLE Two at ¾″ diam

DOWNHAUL CABLE One at ¾″ diam

CRANE

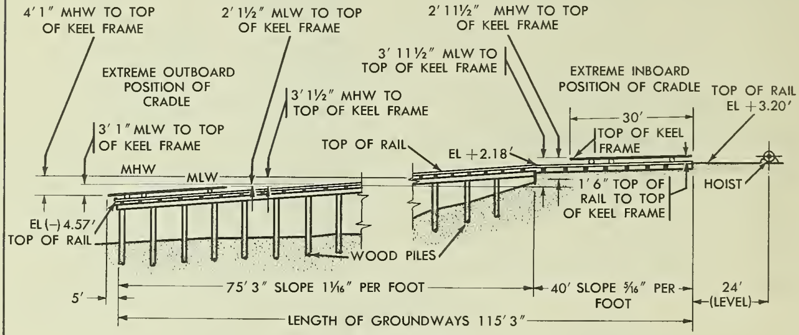
One 20-ton mobile crane with max hook height 35′ above crane tracks; 12′ radius

One 15-ton mobile crane with max hook height 50′ above crane tracks; 12′ radius

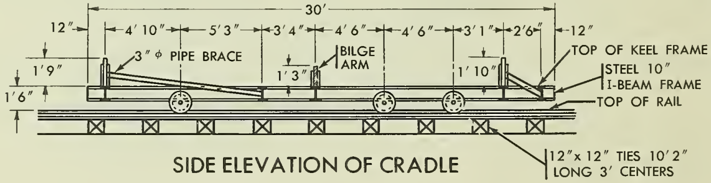
FIRE PROTECTION

2,500–3,000 gpm at 40 psi
Std 6″ hydrants with 4½″ pumper connections

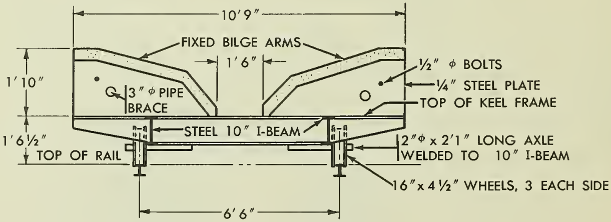
GUANTANAMO BAY, CUBA, NAVAL BASE
MARINE RAILWAY NO. 3


4′ 1″ MHW TO TOP OF KEEL FRAME
2′ 1½″ MLW TO TOP OF KEEL FRAME
2′ 11½″ MHW TO TOP OF KEEL FRAME
3′ 11½″ MLW TO TOP OF KEEL FRAME
EXTREME OUTBOARD POSITION OF CRADLE
3′ 1½″ MHW TO TOP OF KEEL FRAME
EXTREME INBOARD POSITION OF CRADLE
TOP OF RAIL EL +3.20′
30′
TOP OF KEEL FRAME
3′ 1″ MLW TO TOP OF KEEL FRAME
TOP OF RAIL
EL +2.18′
MHW
MLW
1′ 6″ TOP OF RAIL TO TOP OF KEEL FRAME
HOIST
EL (−) 4.57′ TOP OF RAIL
WOOD PILES
5′
75′ 3″ SLOPE 1¹⁄₁₆″ PER FOOT
40′ SLOPE ⁵⁄₁₆″ PER FOOT
24′ (LEVEL)
LENGTH OF GROUNDWAYS 115′ 3″

ELEVATION
(VIEW LOOKING EAST)



SIDE ELEVATION OF CRADLE



TYPICAL CRADLE SECTION

MHW EL 1.00′
MLW EL 0.00′
MEAN TIDAL RANGE 1.00′

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

GUANTANAMO BAY, CUBA, NAVAL BASE
MARINE RAILWAY NO. 3

CAPACITY IN TONS 15

SUITABLE FOR DOCKING
Motor launches up to 50 ft

WHARF None

GROUNDWAY

FOUNDATION Wood piles and ties

CONSTRUCTION MATERIALS
Offshore—wood piles
Inshore —wood ties

WIDTH OF TRACK 6′ 6⅝″

NUMBER OF RAILS Two

SLOPE OF TRACK 0.59 in. per ft

CRADLE

SLOPE OF DECK 0.59 in. per ft

SLOPE AT TOP OF KEEL BLOCKS
0.59 in. per ft; also has adjustable arms

MATERIAL
Cradle framing —steel
Superstructure framing—none

BRIDGE AT BOW None

CAPSTAN AT BOW None; 1 winch at head

UPHAUL SPEED 20 fpm

DOWNHAUL SPEED 20 fpm

WHEELS
Diam 12″
Number—6

HAULING MECHANISM

MOTOR 1 gasoline

HORSEPOWER 30

VOLTS

PHASE

CYCLES

KILOWATTS

UPHAUL CABLE Two at ¾″ diam

DOWNHAUL CABLE One at ¾″ diam

CRANE

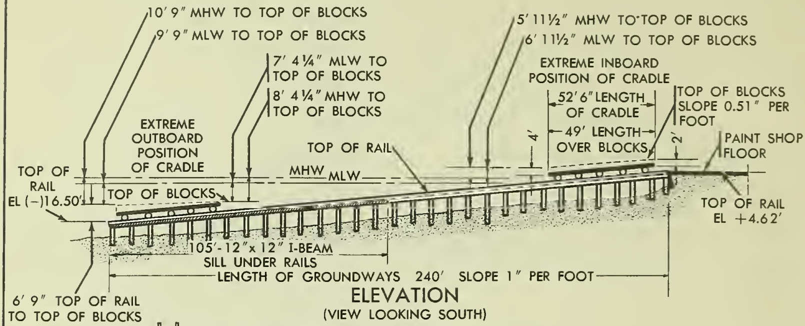
One 20-ton mobile crane with max hook height 35′ above crane tracks; 12′ radius

One 15-ton mobile crane with max hook height 50′ above crane tracks; 12′ radius

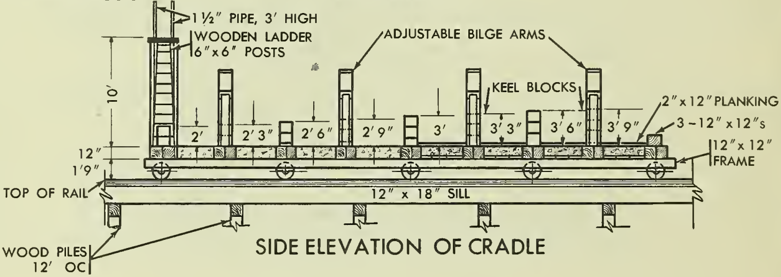
FIRE PROTECTION

2,000–3,000 gpm at 40 psi

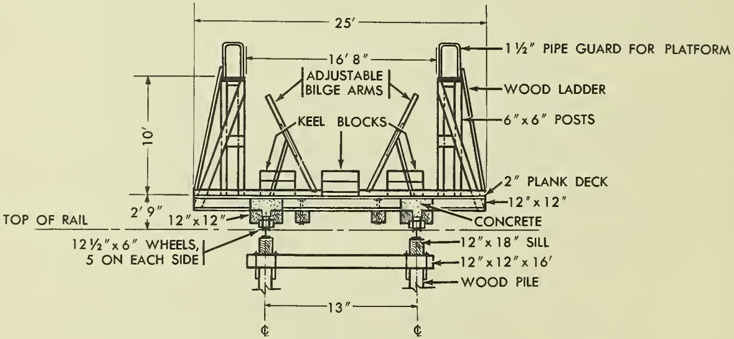
GUANTANAMO BAY, CUBA, NAVAL BASE
MARINE RAILWAY NO. 4


10′ 9″ MHW TO TOP OF BLOCKS
9′ 9″ MLW TO TOP OF BLOCKS
7′ 4¼″ MLW TO TOP OF BLOCKS
8′ 4¼″ MHW TO TOP OF BLOCKS
EXTREME OUTBOARD POSITION OF CRADLE
TOP OF RAIL
TOP OF RAIL EL (−)16.50′
TOP OF BLOCKS
MHW
MLW
5′ 11½″ MHW TO TOP OF BLOCKS
6′ 11½″ MLW TO TOP OF BLOCKS
EXTREME INBOARD POSITION OF CRADLE
52′ 6″ LENGTH OF CRADLE
49′ LENGTH OVER BLOCKS
4′
2′
TOP OF BLOCKS SLOPE 0.51″ PER FOOT
PAINT SHOP FLOOR
TOP OF RAIL EL +4.62′
105′-12″ x 12″ I-BEAM SILL UNDER RAILS
LENGTH OF GROUNDWAYS 240′ SLOPE 1″ PER FOOT
6′ 9″ TOP OF RAIL TO TOP OF BLOCKS

ELEVATION
(VIEW LOOKING SOUTH)



SIDE ELEVATION OF CRADLE



TYPICAL CRADLE SECTION

MHW EL 1.00′
MLW EL 0.00′
MEAN TIDAL RANGE 1.00′
KEEL BLOCKS 6′ C TO C
BILGE BLOCKS 6′ C TO C

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

GUANTANAMO BAY, CUBA, NAVAL BASE
MARINE RAILWAY NO. 4

CAPACITY IN TONS 30

SUITABLE FOR DOCKING
Small boats and barges

WHARF On one side

GROUNDWAY

FOUNDATION Wood piles and ties

CONSTRUCTION MATERIALS
Offshore—wood piles and ties
Inshore —wood piles and ties

WIDTH OF TRACK 13′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK 1 in. per ft

CRADLE

SLOPE OF DECK 1 in. per ft

SLOPE AT TOP OF KEEL BLOCKS
¾ in. per ft

MATERIAL
Cradle framing 6″ x 6″ wood
Superstructure framing—none

BRIDGE AT BOW Yes

CAPSTAN AT BOW None; 1 winch at head

UPHAUL SPEED 20 fpm

DOWNHAUL SPEED 20 fpm

WHEELS
Diam 15″
Number—8

HAULING MECHANISM

MOTOR 1 electric

HORSEPOWER 30

VOLTS 220

PHASE 3

CYCLES 60

KILOWATTS 22½

UPHAUL CABLE Two at 1″ diam

DOWNHAUL CABLE One at 1″ diam

CRANE

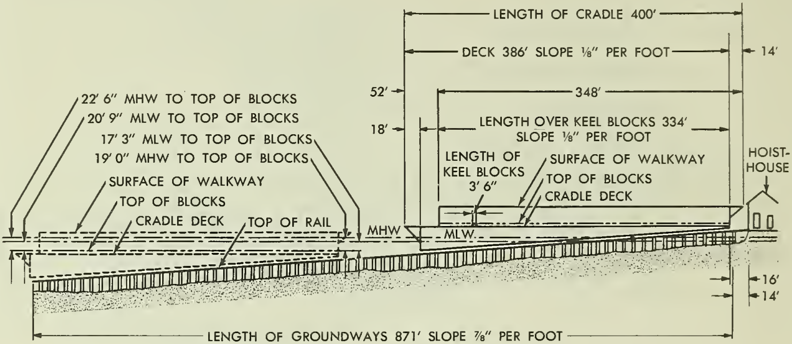
One 20-ton mobile crane with max hook height 35′ above crane tracks; 12′ radius

One 15-ton mobile crane with max hook height 50′ above crane tracks; 12′ radius

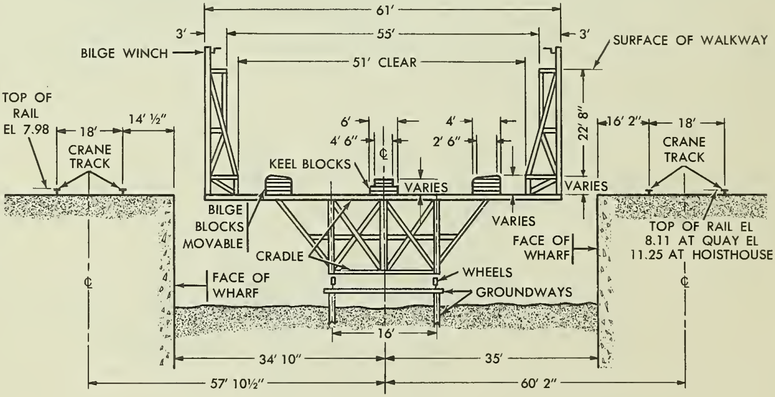
FIRE PROTECTION

2,500–3,000 gpm at 40 psi

KEY WEST, FLA., NAVAL STATION
MARINE RAILWAY NO. 1


LENGTH OF CRADLE 400′
DECK 386′ SLOPE ⅛″ PER FOOT
14′
52′
348′
18′
LENGTH OVER KEEL BLOCKS 334′
SLOPE ⅛″ PER FOOT
LENGTH OF KEEL BLOCKS 3′ 6″
SURFACE OF WALKWAY
TOP OF BLOCKS
CRADLE DECK
HOIST-HOUSE
22′ 6″ MHW TO TOP OF BLOCKS
20′ 9″ MLW TO TOP OF BLOCKS
17′ 3″ MLW TO TOP OF BLOCKS
19′ 0″ MHW TO TOP OF BLOCKS
SURFACE OF WALKWAY
TOP OF BLOCKS
CRADLE DECK
TOP OF RAIL
MHW
MLW.
16′
14′
LENGTH OF GROUNDWAYS 871′ SLOPE ⅞″ PER FOOT

ELEVATION
(LOOKING NORTH)



TYPICAL SECTION
(LOOKING OFFSHORE)

MHW EL 7.8′
MLW EL 6.0′
MEAN TIDAL RANGE 1.8′
KEEL BLOCKS 6′ C TO C
BILGE BLOCKS 12′ C TO C

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

KEY WEST, FLA., NAVAL STATION
MARINE RAILWAY NO. 1

CAPACITY IN TONS 3,000 long

SUITABLE FOR DOCKING
SS, DD, DL, and Fleet tugs

WHARF On two sides

GROUNDWAY

FOUNDATION
Piles outboard, rock inboard

CONSTRUCTION MATERIALS
Offshore—piles and concrete
Inshore —concrete

WIDTH OF TRACK 16′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACKS 7/8 in. per ft

CRADLE

SLOPE OF DECK 1/8 in. per ft

SLOPE AT TOP OF KEEL BLOCKS
1/8 in. per ft

MATERIAL
Cradle framing —steel
Superstructure framing—steel

BRIDGE AT BOW Yes

CAPSTAN AT BOW None; warping winch
Pull in lb 5,000
Speed in fpm 10

UPHAUL SPEED 10 fpm

DOWNHAUL SPEED 10 fpm

WHEELS
Diam 18″
Pairs of wheels 92

HAULING MECHANISM

MOTOR Electric, AC

HORSEPOWER 500

VOLTS 2,300

PHASE 3

CYCLES 60

KILOWATTS 370

UPHAUL CHAIN
4 chains, 2 1/4″ diam

DOWNHAUL CHAIN
4 chains, 1 1/8″ diam

CRANE

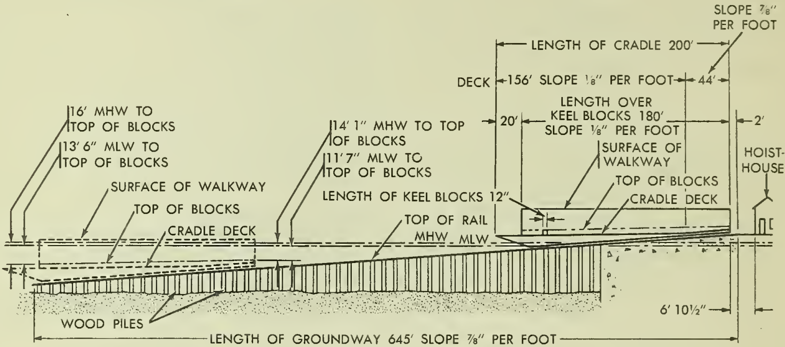
FOR MAXIMUM LIFT AT CENTERLINE
Type of crane—gantry
Height of hook above track 87′
Radius 40′
Capacity 30 tons

FOR MAXIMUM HEIGHT OF HOOK AT CENTERLINE
Type of crane—gantry
Height of hook above tracks 76′
Radius 80′
Capacity 7 1/2 tons

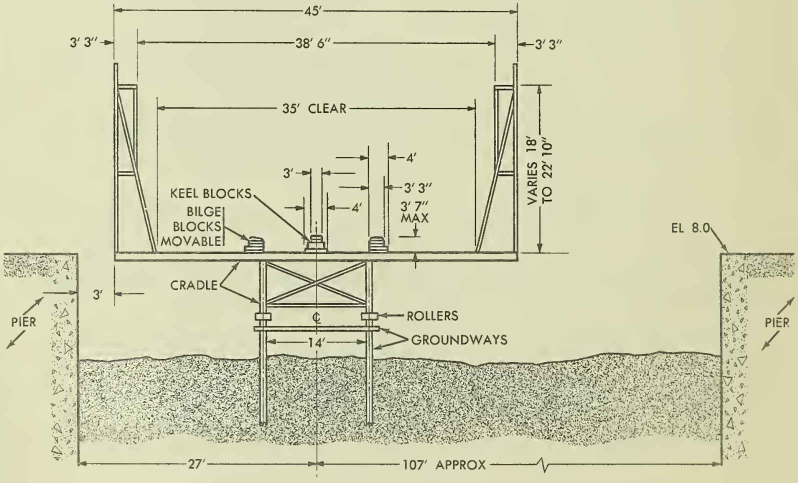
FIRE PROTECTION

WATER
Gal per min 1,750
Pressure in psi 120

LITTLE CREEK, VA., NAVAL AMPHIBIOUS BASE
MARINE RAILWAY



ELEVATION
(LOOKING EAST)



TYPICAL SECTION
(LOOKING OFFSHORE)

MHW EL 2.5′
MLW EL 0.0
MEAN TIDAL RANGE 2.5
KEEL BLOCKS 4′ C TO C
BILGE BLOCKS 8′ C TO C

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

LITTLE CREEK, VA., NAVAL AMPHIBIOUS BASE
MARINE RAILWAY

CAPACITY IN TONS 500 long

SUITABLE FOR DOCKING
PCS, YMS, and small auxiliaries

WHARF On two sides

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—wood piles and bents
Inshore —wood piles and wood frame

WIDTH OF TRACK 14′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK ⅞ in. per ft

CRADLE

SLOPE OF DECK ⅛ in. per ft for
156 ft and ⅞ in.
per ft for 44 ft

SLOPE AT TOP OF KEEL BLOCKS
⅛ in. per ft

MATERIAL
Cradle framing —wood
Superstructure framing—wood

BRIDGE AT BOW Yes

CAPSTAN AT BOW None

UPHAUL SPEED 9 fpm

DOWNHAUL SPEED 10 fpm

ROLLERS
Diam 4″
No. of sets 54 (27 each side)

HAULING MECHANISM

MOTOR Electric

HORSEPOWER 150

VOLTS 2,300

PHASE 3

CYCLES 60

KILOWATTS

UPHAUL CHAIN
1 chain, 2¾″ diam cast steel

DOWNHAUL CABLE
1 cable, 1¼″ diam

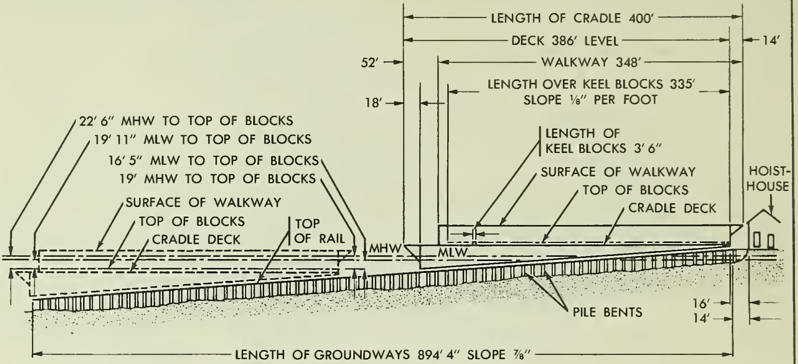
CRANE

None

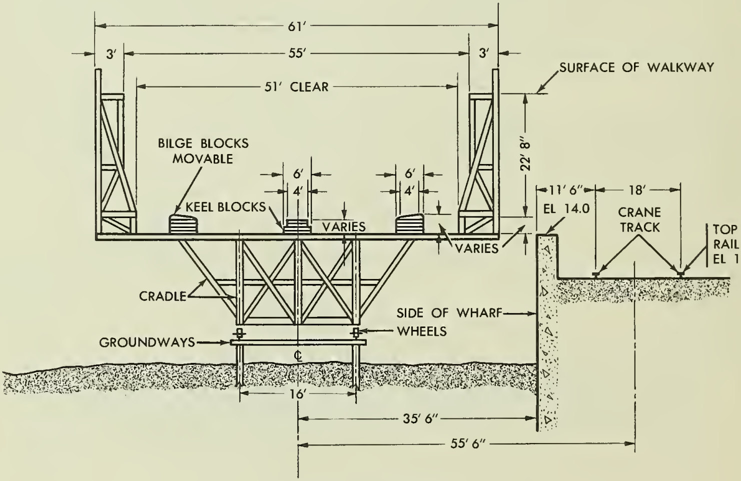
FIRE PROTECTION

None except nearby fire hydrant

NEW LONDON, CONN., NAVAL SUBMARINE BASE
MARINE RAILWAY



ELEVATION
(LOOKING WEST)



TYPICAL SECTION
(LOOKING OFFSHORE)

MHW EL 2.58′
MLW EL 0.0
MEAN TIDAL RANGE 2.58′
KEEL BLOCKS 6′ C TO C
BILGE BLOCKS 12′ C TO C

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NEW LONDON, CONN., NAVAL SUBMARINE BASE
MARINE RAILWAY

CAPACITY IN TONS 3,000 long[1]

SUITABLE FOR DOCKING
SS, DD, DE, and Fleet tugs

WHARF On one side

GROUNDWAY

FOUNDATION Piles and concrete

CONSTRUCTION MATERIALS
Offshore—ledge rock
Inshore —concrete

WIDTH OF TRACK 16′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK ⅞ in. per ft

CRADLE

SLOPE OF DECK Level

SLOPE AT TOP OF KEEL BLOCKS
⅛ in. per ft

MATERIAL
Cradle framing —steel
Superstructure framing—steel

BRIDGE AT BOW Yes

CAPSTAN AT BOW None

UPHAUL SPEED 10 fpm

DOWNHAUL SPEED 10 fpm

WHEELS
Diam 18″

HAULING MECHANISM

MOTOR Electric

HORSEPOWER 400

VOLTS 2,300

PHASE 3

CYCLES 60

KILOWATTS 298

UPHAUL CHAIN
4 chains, 2⅜″ diam

DOWNHAUL CHAIN
4 chains, 1¼″ diam

CRANE

FOR MAXIMUM LIFT AT CENTERLINE
Type of crane—gantry
Top of rail to top of gantry 58′
Radius 40′
Capacity 30 tons

FOR MAXIMUM HEIGHT OF HOOK AT CENTERLINE
Type of crane—portal
Clear under portal 20′
Radius 100′
Capacity 7½ tons

FIRE PROTECTION

WATER
Gal per min 750
Pressure in psi 125

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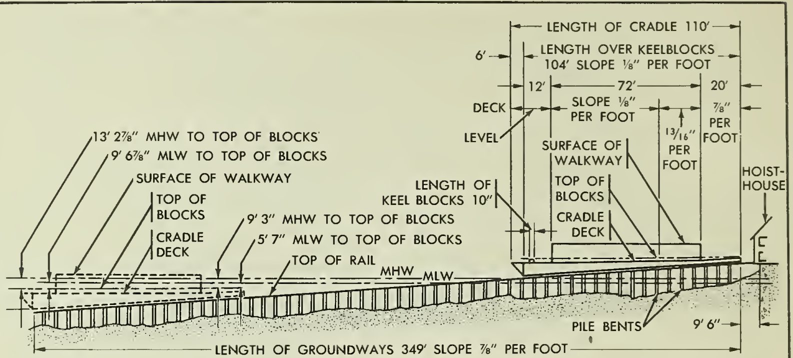
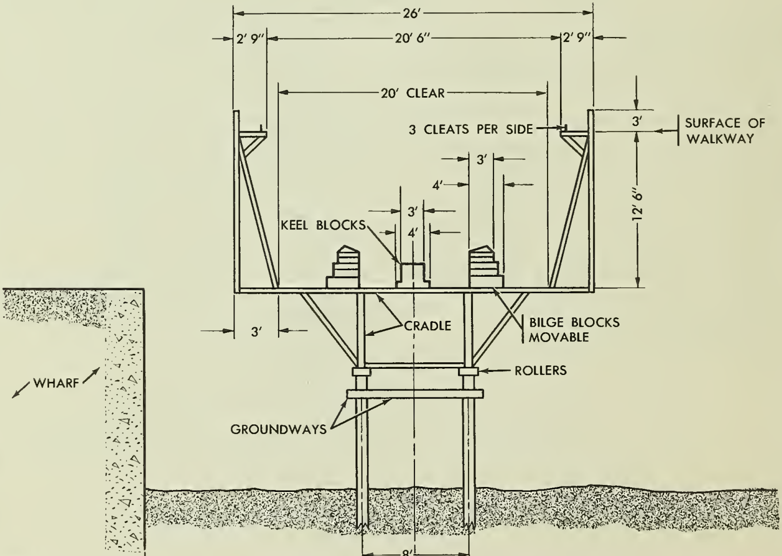
[1] Subject to restrictions because of deterioration of cradle and hauling mechanism.

NEWPORT, R. I., NAVAL STATION
MARINE RAILWAY


LENGTH OF CRADLE 110′
6′
LENGTH OVER KEELBLOCKS 104′ SLOPE ⅛″ PER FOOT
12′
72′
20′
DECK
LEVEL
SLOPE ⅛″ PER FOOT
13/16″ PER FOOT
⅞″ PER FOOT
SURFACE OF WALKWAY
TOP OF BLOCKS
CRADLE DECK
HOIST-HOUSE
13′ 2⅞″ MHW TO TOP OF BLOCKS
9′ 6⅞″ MLW TO TOP OF BLOCKS
SURFACE OF WALKWAY
TOP OF BLOCKS
CRADLE DECK
LENGTH OF KEEL BLOCKS 10″
9′ 3″ MHW TO TOP OF BLOCKS
5′ 7″ MLW TO TOP OF BLOCKS
TOP OF RAIL
MHW
MLW
PILE BENTS
9′ 6″
LENGTH OF GROUNDWAYS 349′ SLOPE ⅞″ PER FOOT

ELEVATION
(LOOKING SOUTH)



MHW EL 3.67′
MLW EL 0.0
MEAN TIDAL RANGE 3.67′
KEEL BLOCKS 4′ C TO C
BILGE BLOCKS 12′ C TO C

TYPICAL SECTION
(LOOKING INSHORE)

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

NEWPORT, R. I., NAVAL STATION
MARINE RAILWAY

CAPACITY IN TONS 90 long[1]

SUITABLE FOR DOCKING
Station craft

WHARF On one side

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—wood and steel on wood piles
Inshore —wood

WIDTH OF TRACK 8′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACKS ⅞ in. per ft

CRADLE

SLOPE OF DECK Level, ⅛ in. per ft, and ⅞ in. per ft

SLOPE AT TOP OF KEEL BLOCKS
⅛ in. per ft

MATERIAL
Cradle framing —steel
Superstructure framing—steel

BRIDGE AT BOW None

CAPSTAN AT BOW None; two winches on shore
Pull in lb 32,000
Speed in fpm 25

UPHAUL SPEED 25 fpm

DOWNHAUL SPEED 25 fpm

ROLLERS
Diam 3″
No. of sets 135

HAULING MECHANISM

MOTOR 1 electric

HORSEPOWER 30

VOLTS 220

PHASE 3

CYCLES 60

KILOWATTS 22

UPHAUL CABLE 1¼″ diam

DOWNHAUL CABLE 1″ diam

CRANE

Mobile yard cranes and floating cranes only

FIRE PROTECTION

WATER
Gal per min 500
Pressure in psi 50

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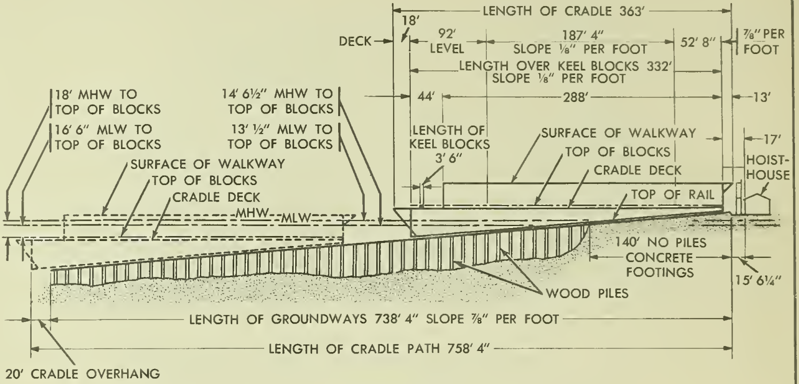
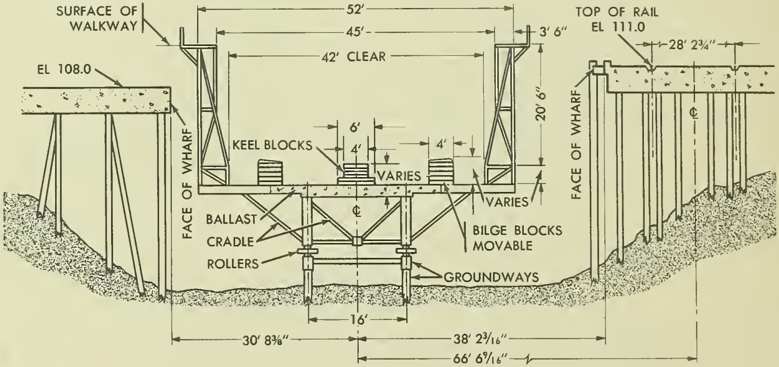
[1] Limited to 60 tons pending replacement of cradle.

PEARL HARBOR, T. H., NAVAL SHIPYARD
MARINE RAILWAY NO. 1


LENGTH OF CRADLE 363′
18′
DECK
92′ LEVEL
187′ 4″ SLOPE ⅛″ PER FOOT
52′ 8″
⅞″ PER FOOT
LENGTH OVER KEEL BLOCKS 332′ SLOPE ⅛″ PER FOOT
44′
288′
13′
18′ MHW TO TOP OF BLOCKS
16′ 6″ MLW TO TOP OF BLOCKS
14′ 6½″ MHW TO TOP OF BLOCKS
13′ ½″ MLW TO TOP OF BLOCKS
LENGTH OF KEEL BLOCKS 3′ 6″
SURFACE OF WALKWAY
TOP OF BLOCKS
CRADLE DECK
SURFACE OF WALKWAY
TOP OF BLOCKS
CRADLE DECK
TOP OF RAIL
17′
HOIST-HOUSE
MHW
MLW
140′ NO PILES CONCRETE FOOTINGS
15′ 6¼″
WOOD PILES
LENGTH OF GROUNDWAYS 738′ 4″ SLOPE ⅞″ PER FOOT
LENGTH OF CRADLE PATH 758′ 4″
20′ CRADLE OVERHANG

ELEVATION
(LOOKING SOUTHEAST)



MHW EL 101.5′
MLW EL 100.0′
MEAN TIDAL RANGE 1.5′
KEEL BLOCKS 6′ C TO C
BILGE BLOCKS 12′ C TO C

TYPICAL SECTION
(LOOKING OFFSHORE)

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PEARL HARBOR, T. H., NAVAL SHIPYARD
MARINE RAILWAY NO. 1

CAPACITY IN TONS 2,500 long[1]

SUITABLE FOR DOCKING
SS, smaller DD, DE,
and Fleet tugs

WHARF On two sides

GROUNDWAY

FOUNDATION Wood piles and concrete

CONSTRUCTION MATERIALS
Offshore—wood piles and concrete
Inshore —concrete

WIDTH OF TRACK 16′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACKS ⅞ in. per ft

CRADLE

SLOPE OF DECK
Level, ⅛ in. per ft,
and ⅞ in. per ft

SLOPE AT TOP OF KEEL BLOCKS
⅛ in. per ft

MATERIAL
Cradle framing —steel
Superstructure framing—steel

BRIDGE AT BOW Yes

CAPSTAN AT BOW None

UPHAUL SPEED High, 23.6 fpm;
low, 10 fpm

DOWNHAUL SPEED High, 23.6 fpm;
low, 10 fpm

ROLLERS
Diam 4″
No. of sets 1,056

HAULING MECHANISM

MOTOR 1 electric

HORSEPOWER 250

VOLTS 220

PHASE 3

CYCLES 60

KILOWATTS 224

UPHAUL CHAIN
4 chains, 2⅝″ diam

DOWNHAUL CHAIN
4 chains, 1⅛″ diam

CRANE

FOR MAXIMUM LIFT AT CENTERLINE
Type of crane—travel gantry
Height of hook above track 100′
Radius 67′
Capacity 50 tons

FOR MAXIMUM HEIGHT OF HOOK AT CENTERLINE
Type of crane—travel gantry
Height of hook above track 143′
Radius 79′ 3½″
Capacity 5 tons

FIRE PROTECTION

WATER
Gal per min 1,250
Pressure in psi 125

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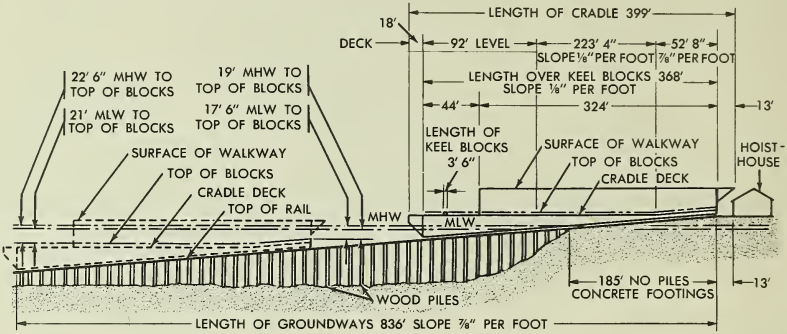
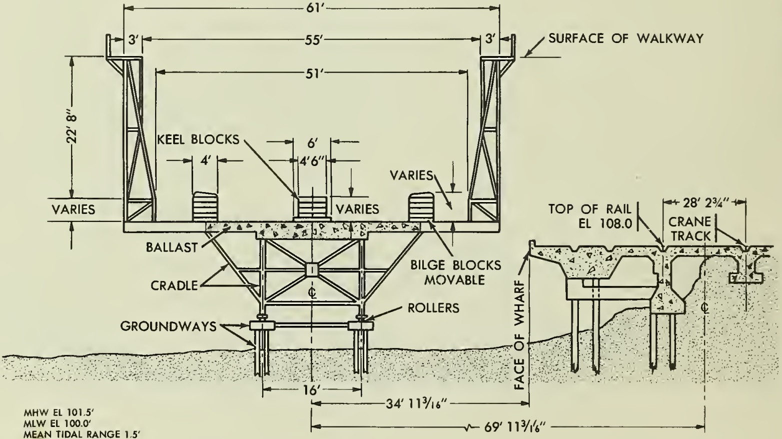
[1] Limited to 1,726 tons.

PEARL HARBOR, T. H., NAVAL SHIPYARD
MARINE RAILWAY NO. 2



ELEVATION
(LOOKING SOUTHEAST)



MHW EL 101.5′
MLW EL 100.0′
MEAN TIDAL RANGE 1.5′
KEEL BLOCKS 6′ ℄ TO ℄
BILGE BLOCKS 12′ ℄ TO ℄

TYPICAL SECTION
(LOOKING OFFSHORE)

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PEARL HARBOR, T. H., NAVAL SHIPYARD

MARINE RAILWAY NO. 2

CAPACITY IN TONS 3,000 long

SUITABLE FOR DOCKING
SS, DD, and Fleet tugs

WHARF On one side

GROUNDWAY

FOUNDATION Wood piles and concrete

CONSTRUCTION MATERIALS
Offshore—wood piles and concrete
Inshore —concrete

WIDTH OF TRACK 16′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK ⅞ in. per ft

CRADLE

SLOPE OF DECK Level, ⅛ in. per ft, and ⅞ in. per ft

SLOPE AT TOP OF KEEL BLOCKS
⅛ in. per ft

MATERIAL
Cradle framing —steel
Superstructure framing—steel

BRIDGE AT BOW Yes

CAPSTAN AT BOW None

UPHAUL SPEED 10 fpm

DOWNHAUL SPEED 10 fpm

ROLLERS
Diam 4″
No. of sets 1,226

HAULING MECHANISM

MOTOR Electric

HORSEPOWER 500

VOLTS 2,200

PHASE 3

CYCLES 60

KILOWATTS 435

UPHAUL CHAIN
4 chains, 2¾″ diam

DOWNHAUL CHAIN
4 chains, 1¾″ diam

CRANE

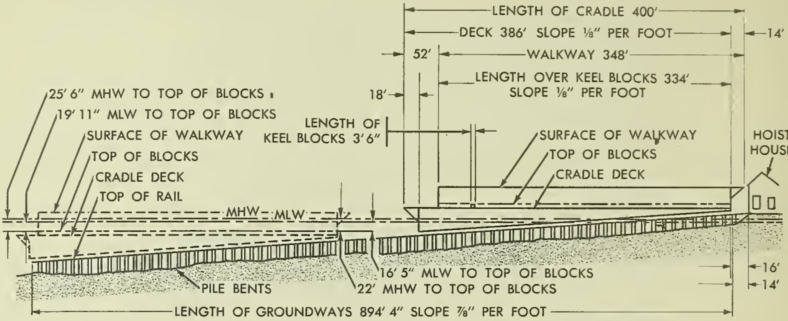
FOR MAXIMUM LIFT AT CENTERLINE
Type of crane—travel gantry
Height of hook above track 95′
Radius 70′
Capacity 50 tons

FOR MAXIMUM HEIGHT OF HOOK AT CENTERLINE
Type of crane—travel gantry
Height of hook above track 143′
Radius 79′ 3½″
Capacity 5 tons

FIRE PROTECTION

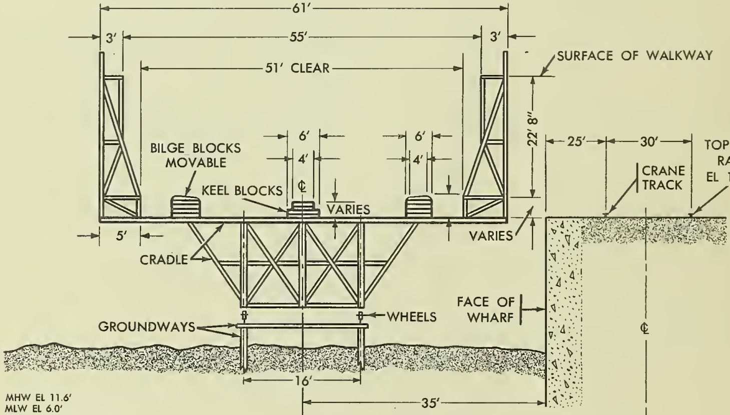
WATER
Gal per min 1,250
Pressure in psi 125

PHILADELPHIA, PA., NAVAL SHIPYARD
MARINE RAILWAY NO. 1



ELEVATION

(LOOKING SOUTH)



MHW EL 11.6′
MLW EL 6.0′
MEAN TIDAL RANGE 5.58′
KEEL BLOCKS 6′ C TO C
BILGE BLOCKS 12′ C TO C

TYPICAL SECTION

(LOOKING INSHORE)

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PHILADELPHIA, PA., NAVAL SHIPYARD
MARINE RAILWAY NO. 1

CAPACITY IN TONS 3,000 long

SUITABLE FOR DOCKING
SS, DD, DE, and Fleet tugs

WHARF On one side

GROUNDWAY

FOUNDATION Piles and concrete

CONSTRUCTION MATERIALS
Offshore—piles and concrete
Inshore —concrete

WIDTH OF TRACK 16′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK 7/8 in. per ft

CRADLE

SLOPE OF DECK 1/8 in. per ft

SLOPE AT TOP OF KEEL BLOCKS
1/8 in. per ft

MATERIAL
Cradle framing —steel
Superstructure framing—steel

BRIDGE AT BOW Yes

CAPSTAN AT BOW
Pull in lb 5,000
Speed in fpm 101

UPHAUL SPEED 20 fpm

DOWNHAUL SPEED 20 fpm

WHEELS
Diam 18″

HAULING MECHANISM

MOTOR Electric induction

HORSEPOWER 400

VOLTS 2,300

PHASE 3

CYCLES 60

KILOWATTS 50 to 100

UPHAUL CHAIN
4 chains, 2 1/4″ diam

DOWNHAUL CHAIN
4 chains, 1 1/8″ diam

CRANE

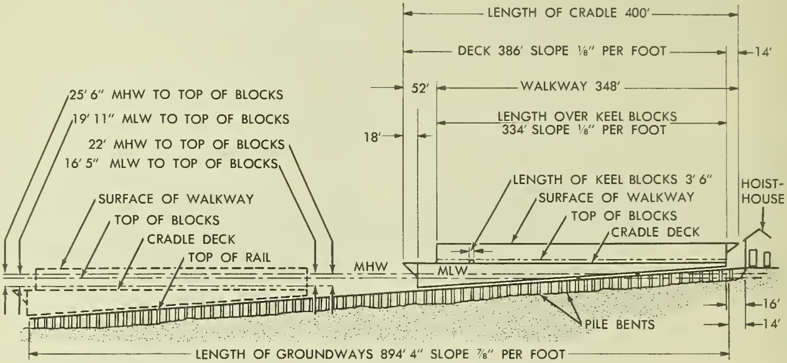
FOR MAXIMUM LIFT AT CENTERLINE
Type of crane—portal
Height of hook above track 23′
Radius 115′
Capacity 20 tons

FOR MAXIMUM HEIGHT OF HOOK AT CENTERLINE
Type of crane—portal
Height of hook above track 120′
Radius
Capacity 5 tons

FIRE PROTECTION

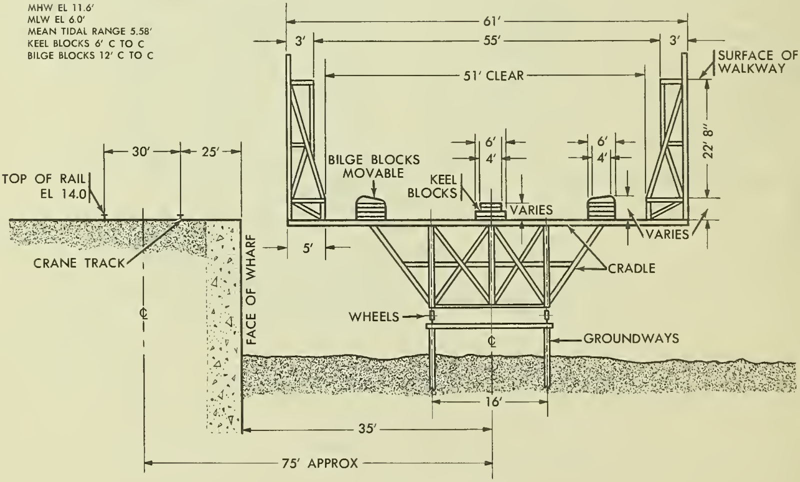
WATER
Gal per min 3,000 at hydrant
3,000 from firefighting equipment
Pressure in psi 90

PHILADELPHIA, PA., NAVAL SHIPYARD
MARINE RAILWAY NO. 2



ELEVATION
(LOOKING SOUTH)

MHW EL 11.6′
MLW EL 6.0′
MEAN TIDAL RANGE 5.58′
KEEL BLOCKS 6′ C TO C
BILGE BLOCKS 12′ C TO C



TYPICAL SECTION
(LOOKING INSHORE)

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PHILADELPHIA, PA., NAVAL SHIPYARD
MARINE RAILWAY NO. 2

CAPACITY IN TONS 3,000 long

SUITABLE FOR DOCKING
SS, DD, DE, and Fleet tugs

WHARF On one side

GROUNDWAY

FOUNDATION Piles and concrete

CONSTRUCTION MATERIALS
Offshore—piles and concrete
Inshore —concrete

WIDTH OF TRACK 16′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK ⅞ in. per ft

CRADLE

SLOPE OF DECK ⅛ in. per ft

SLOPE AT TOP OF KEEL BLOCKS
⅛ in. per ft

MATERIAL
Cradle framing —steel
Superstructure framing—steel

BRIDGE AT BOW Yes

CAPSTAN AT BOW
Pull in lb 5,000
Speed in fpm 101

UPHAUL SPEED 20 fpm

DOWNHAUL SPEED 20 fpm

WHEELS
Diam 18″

HAULING MECHANISM

MOTOR Electric induction

HORSEPOWER 400

VOLTS 2,300

PHASE 3

CYCLES 60

KILOWATTS 50 to 100

UPHAUL CHAIN
4 chains, 2¼″ diam

DOWNHAUL CHAIN
4 chains, 1⅛″ diam

CRANE

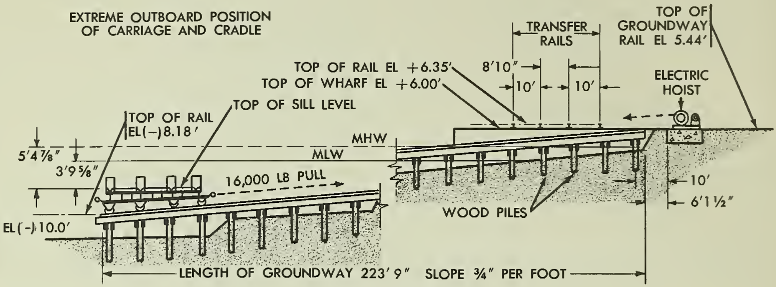
FOR MAXIMUM LIFT AT CENTERLINE
Type of crane—portal
Height of hook above track 22′
Radius 85′
Capacity 15 tons

FOR MAXIMUM HEIGHT OF HOOK AT CENTERLINE
Type of crane—portal
Height of hook above track 105′
Radius
Capacity 5 tons

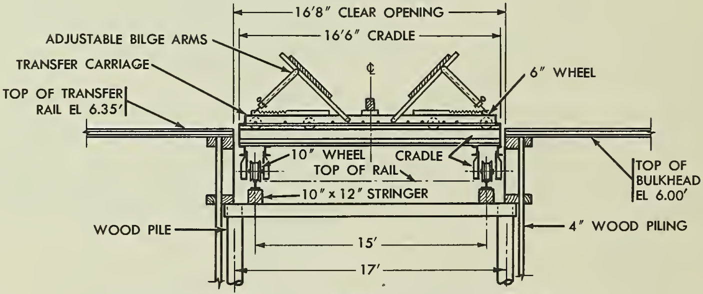
FIRE PROTECTION

WATER
Gal per min 3,000 at hydrant
3,000 from firefighting equipment
Pressure in psi 90

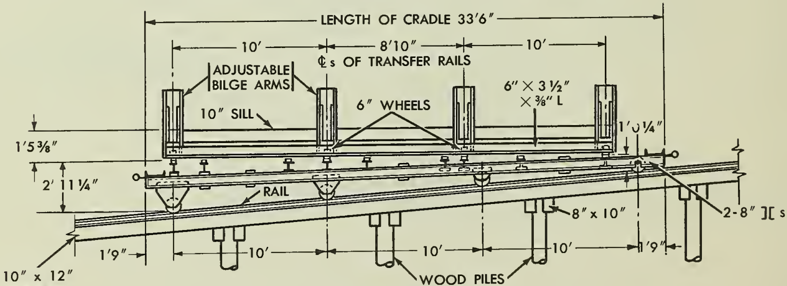
PINEY POINT, MD., NAVAL TORPEDO TESTING RANGE
MARINE RAILWAY



ELEVATION
(VIEW LOOKING NORTHWEST)



OUTBOARD END OF CRADLE IN TRANSFER DOCK



SIDE ELEVATION
CRADLE AND TRANSFER CARRIAGE

MHW EL 1.60'
MLW EL 0.00'
MEAN TIDAL RANGE 1.60'

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

PINEY POINT, MD., NAVAL TORPEDO TESTING RANGE
MARINE RAILWAY

CAPACITY IN TONS 25

SUITABLE FOR DOCKING
Small boats

WHARF On two sides

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—wood
Inshore —wood and concrete

WIDTH OF TRACK 15′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACKS ¾ in. per ft

CRADLE

SLOPE OF DECK ⅛ in. per ft

SLOPE AT TOP OF KEEL BLOCKS
No blocks; use deck and adjustable bilge arms

MATERIAL
Cradle framing —steel
Superstructure framing—wood

BRIDGE AT BOW None

CAPSTAN AT BOW None

UPHAUL SPEED 10 fpm

DOWNHAUL SPEED 10 fpm

WHEELS
Diam 10″
Number—4 each side

HAULING MECHANISM

MOTOR 1 electric

HORSEPOWER 10

VOLTS 220 to 240

PHASE 3

CYCLES 30

KILOWATTS 7.5

UPHAUL CABLE ⅞″ diam

DOWNHAUL CABLE ⅞″ diam

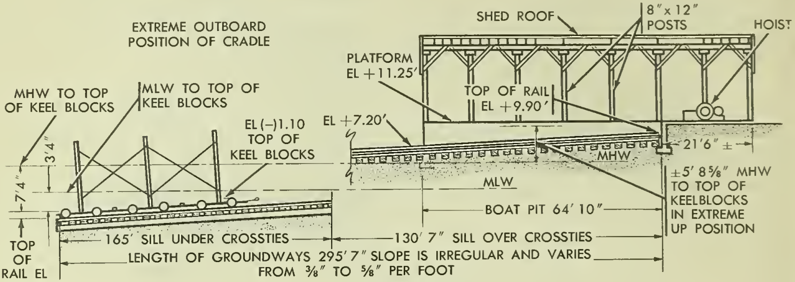
CRANE

7½-ton mobile crane

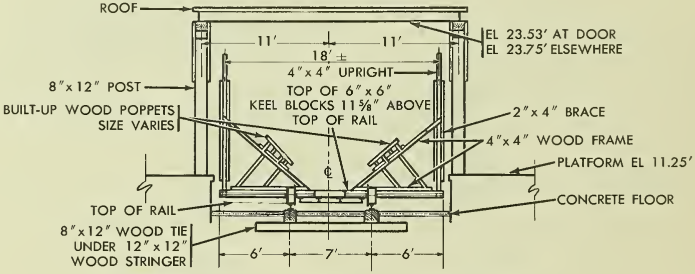
FIRE PROTECTION

25,000-gal cap. standpipe,
hand extinguishers, and fire tug

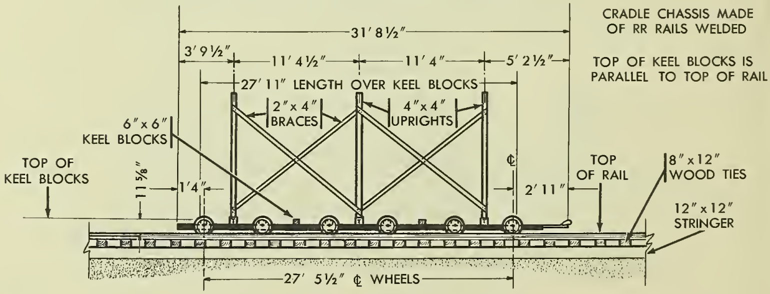
QUONSET POINT, R. I., NAVAL AIR STATION
MARINE RAILWAY


EXTREME OUTBOARD POSITION OF CRADLE
MHW TO TOP OF KEEL BLOCKS
MLW TO TOP OF KEEL BLOCKS
3′4″
7′4″
EL (−)1.10 TOP OF KEEL BLOCKS
EL +7.20′
PLATFORM EL +11.25′
SHED ROOF
8″x12″ POSTS
HOIST
TOP OF RAIL EL +9.90′
21′6″ ±
MHW
MLW
±5′ 8⅝″ MHW TO TOP OF KEELBLOCKS IN EXTREME UP POSITION
BOAT PIT 64′ 10″
TOP OF RAIL EL (−)3.90′
165′ SILL UNDER CROSSTIES
130′ 7″ SILL OVER CROSSTIES
LENGTH OF GROUNDWAYS 295′ 7″ SLOPE IS IRREGULAR AND VARIES FROM ⅜″ TO ⅝″ PER FOOT

ELEVATION
(VIEW LOOKING SOUTH)



OUTBOARD END OF CRADLE IN BOAT PIT



CRADLE CHASSIS MADE OF RR RAILS WELDED

TOP OF KEEL BLOCKS IS PARALLEL TO TOP OF RAIL

SIDE ELEVATION OF CRADLE

MHW EL 5.00′
MLW EL 1.00′±
MEAN TIDAL RANGE 4.00′

ON INBOARD LENGTH OF RAILWAY 12″ × 12″ STRINGERS ARE PLACED ABOVE 8″ × 12″ WOOD TIES

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

QUONSET POINT, R. I., NAVAL AIR STATION
MARINE RAILWAY

CAPACITY IN TONS 25 long (max)

SUITABLE FOR DOCKING
Crashboats

WHARF None

GROUNDWAY

FOUNDATION Wood sleepers

CONSTRUCTION MATERIALS
Offshore—wood
Inshore —wood

WIDTH OF TRACK 7′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK ⅝ in. per ft

CRADLE

SLOPE OF DECK ⅝ in. per ft

SLOPE AT TOP OF KEEL BLOCKS
⅝ in. per ft

MATERIAL
Cradle framing —wood
Superstructure framing—steel

BRIDGE AT BOW None

CAPSTAN AT BOW None

UPHAUL SPEED 8 to 15 fpm

DOWNHAUL SPEED Gravity

WHEELS
Diam 15″
Number—6 each side

HAULING MECHANISM

MOTOR 1 gasoline

HORSEPOWER

VOLTS

PHASE

CYCLES

KILOWATTS

UPHAUL CABLE One at ⅝″ diam

DOWNHAUL Gravity

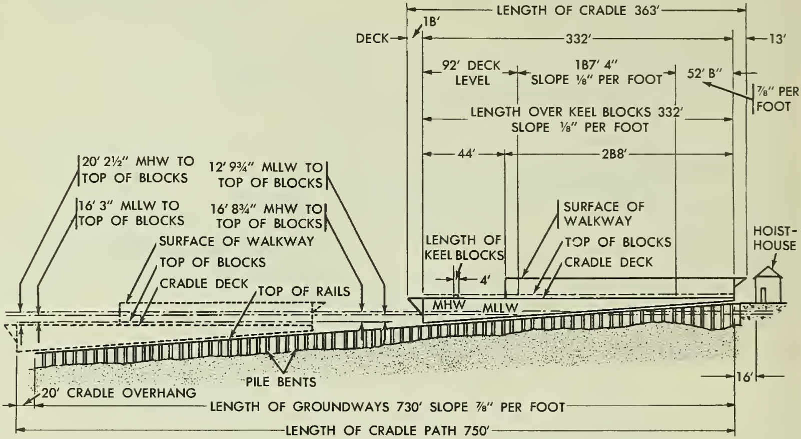
CRANE

20-ton monorail in Boathouse No. 62

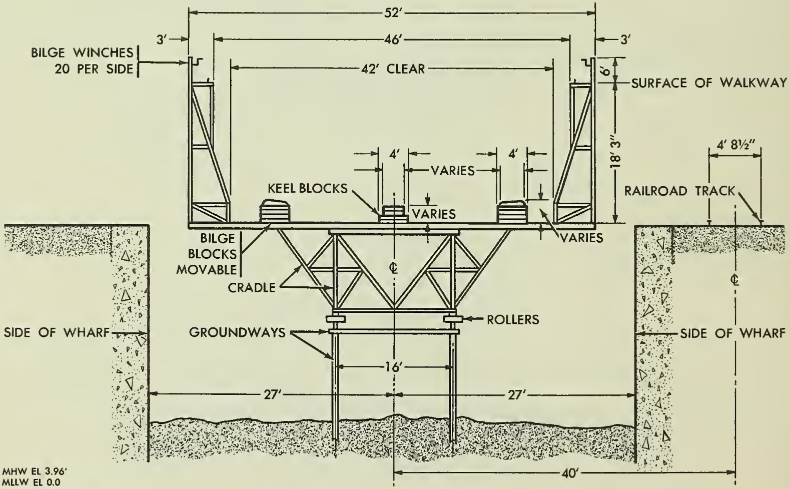
FIRE PROTECTION

500 gpm at 65 psi

SAN DIEGO, CALIF., NAVAL STATION
MARINE RAILWAY


LENGTH OF CRADLE 363'
18'
DECK
332'
13'
92' DECK LEVEL
187' 4" SLOPE ⅛" PER FOOT
52' 8"
⅞" PER FOOT
LENGTH OVER KEEL BLOCKS 332' SLOPE ⅛" PER FOOT
44'
288'
20' 2½" MHW TO TOP OF BLOCKS
12' 9¾" MLLW TO TOP OF BLOCKS
16' 3" MLLW TO TOP OF BLOCKS
16' 8¾" MHW TO TOP OF BLOCKS
SURFACE OF WALKWAY
TOP OF BLOCKS
CRADLE DECK
TOP OF RAILS
SURFACE OF WALKWAY
TOP OF BLOCKS
CRADLE DECK
LENGTH OF KEEL BLOCKS
4'
HOIST-HOUSE
MHW
MLLW
PILE BENTS
20' CRADLE OVERHANG
16'
LENGTH OF GROUNDWAYS 730' SLOPE ⅞" PER FOOT
LENGTH OF CRADLE PATH 750'

ELEVATION
(LOOKING WEST)



MHW EL 3.96'
MLLW EL 0.0
MEAN TIDAL RANGE 3.96'
KEEL BLOCKS 4' C TO
BILGE BLOCKS 12' C TO C

TYPICAL SECTION
(LOOKING INSHORE)

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

SAN DIEGO, CALIF., NAVAL STATION
MARINE RAILWAY

CAPACITY IN TONS 2,500 long[1]

SUITABLE FOR DOCKING
SS, DD, and Fleet tugs

WHARF On two sides

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—wood on wood piles
Inshore —concrete girders on wood piles

WIDTH OF TRACK 16′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK ⅞ in. per ft

CRADLE

SLOPE AT DECK
Level, ⅛ in. per ft, and ⅞ in. per ft

SLOPE AT TOP OF KEEL BLOCKS
⅛ in. per ft

MATERIAL
Cradle framing —steel
Superstructure framing—steel

BRIDGE AT BOW Yes

CAPSTAN AT BOW Yes
Pull in lb
Speed in fpm

UPHAUL SPEED 12 fpm

DOWNHAUL SPEED

ROLLERS
Diam 4″
No. of sets 29

HAULING MECHANISM

MOTOR Electric

HORSEPOWER 250

VOLTS 440

PHASE 3

CYCLES 60

KILOWATTS

UPHAUL CHAIN 2⅝″ diam

DOWNHAUL CHAIN 1⅜″ diam

CRANE

Portal crane on quay

FIRE PROTECTION

WATER
Gal per min
Pressure in psi 165

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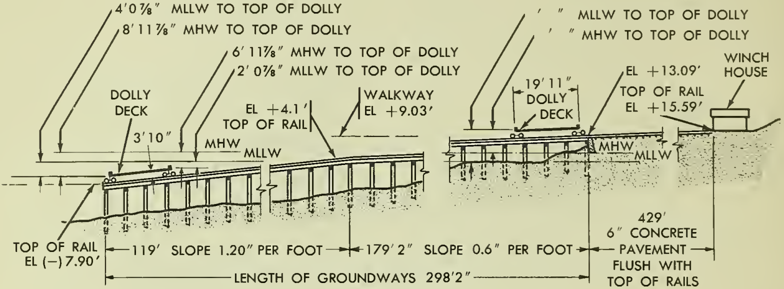
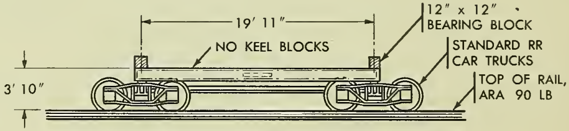
[1] Limited to 1,250 tons by condition of cradle.

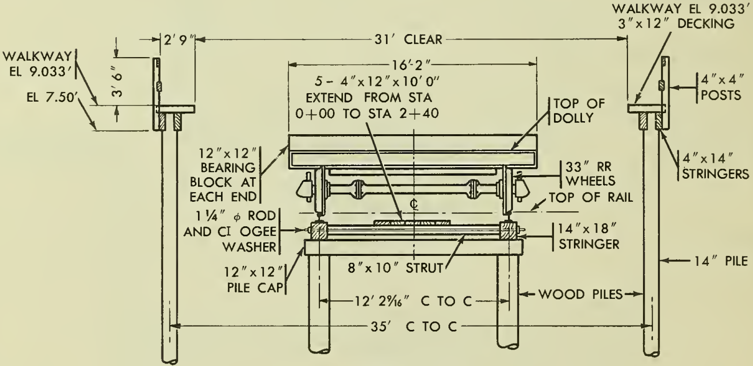
SAN DIEGO, CALIF., NAVAL STATION
MARINE RAILWAY, TARGET REPAIR BASE


4′0⅞″ MLLW TO TOP OF DOLLY
8′11⅞″ MHW TO TOP OF DOLLY
6′11⅞″ MHW TO TOP OF DOLLY
2′0⅞″ MLLW TO TOP OF DOLLY
DOLLY DECK
3′10″
EL +4.1′
TOP OF RAIL
WALKWAY
EL +9.03′
MHW
MLLW
′ ″ MLLW TO TOP OF DOLLY
′ ″ MHW TO TOP OF DOLLY
19′11″
DOLLY DECK
EL +13.09′
TOP OF RAIL
EL +15.59′
WINCH HOUSE
MHW
MLLW
TOP OF RAIL
EL (−) 7.90′
119′ SLOPE 1.20″ PER FOOT
179′2″ SLOPE 0.6″ PER FOOT
429′
6″ CONCRETE PAVEMENT FLUSH WITH TOP OF RAILS
LENGTH OF GROUNDWAYS 298′2″

ELEVATION



SIDE ELEVATION OF DOLLY



END VIEW
(OFFSHORE END)

MHW EL 4.91′
MLLW EL 0.00′
MEAN TIDAL RANGE 4.91′

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

SAN DIEGO, CALIF., NAVAL STATION
MARINE RAILWAY, TARGET REPAIR BASE

CAPACITY IN TONS 71.5 long

SUITABLE FOR DOCKING
High-speed ship targets

WHARF No wharf; 1 catwalk on each side

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—wood
Inshore —wood and concrete

WIDTH OF TRACK 12′ 0″ gage

NUMBER OF RAILS Two

SLOPE OF TRACK 0.60 and 1.20 in. per ft

CRADLE (DOLLY)

SLOPE OF DECK
0.60 and 1.20 in. per ft

SLOPE AT TOP OF KEEL BLOCKS
No blocks. Top of dolly is parallel to rails

MATERIAL
Cradle framing —steel
Superstructure framing—none

BRIDGE AT BOW None

CAPSTAN AT BOW
No capstans, no winches

UPHAUL SPEED 80 fpm

DOWNHAUL SPEED Gravity

WHEELS
Diam 33″
Number—4 each side

HAULING MECHANISM

MOTOR 1 electric

HORSEPOWER 50 at 1,150 rpm
20 at 575 rpm

VOLTS 220

PHASE 3

CYCLES 60

KILOWATTS 37.3 at 1,150 rpm
14.9 at 575 rpm

UPHAUL CABLE One at 1″ diam

DOWNHAUL CABLE None

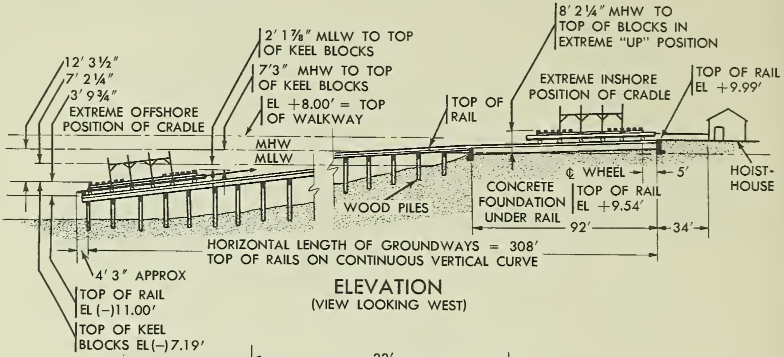
CRANE

Auto-crane service only

FIRE PROTECTION

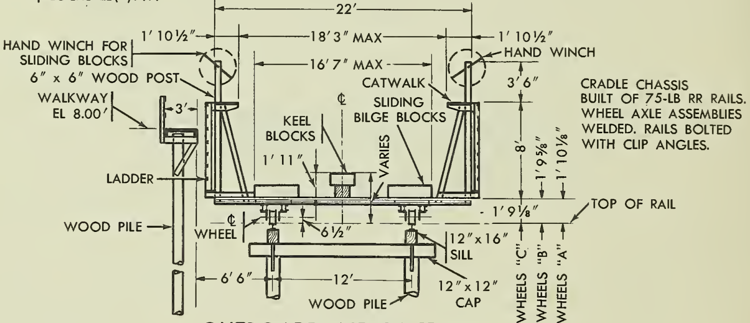
700 gpm at 10 psi

SAN DIEGO, CALIF., NAVAL BASE
MARINE RAILWAY, FLEET SONAR SCHOOL



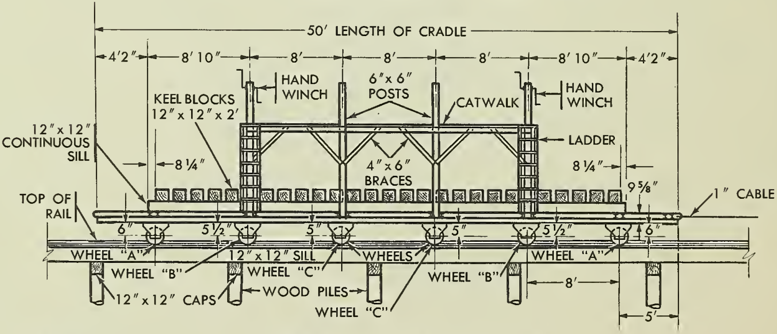
12′ 3½″
7′ 2¼″
3′ 9¾″
EXTREME OFFSHORE POSITION OF CRADLE
2′ 1⅞″ MLLW TO TOP OF KEEL BLOCKS
7′3″ MHW TO TOP OF KEEL BLOCKS
EL +8.00′ = TOP OF WALKWAY
MHW
MLLW
TOP OF RAIL
8′ 2¼″ MHW TO TOP OF BLOCKS IN EXTREME "UP" POSITION
EXTREME INSHORE POSITION OF CRADLE
TOP OF RAIL EL +9.99′
HOIST-HOUSE
℄ WHEEL
5′
WOOD PILES
CONCRETE FOUNDATION UNDER RAIL
TOP OF RAIL EL +9.54′
92′
34′
HORIZONTAL LENGTH OF GROUNDWAYS = 308′
TOP OF RAILS ON CONTINUOUS VERTICAL CURVE
4′ 3″ APPROX
TOP OF RAIL EL (−)11.00′
TOP OF KEEL BLOCKS EL (−)7.19′

ELEVATION
(VIEW LOOKING WEST)



CRADLE CHASSIS BUILT OF 75-LB RR RAILS. WHEEL AXLE ASSEMBLIES WELDED. RAILS BOLTED WITH CLIP ANGLES.

OUTBOARD END OF CRADLE



SIDE ELEVATION OF CRADLE

MHW EL 5.10′
MLLW EL 0.00′
RANGE OF TIDE 5.10′
KEEL BLOCKS 1′6″ C TO C

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

SAN DIEGO, CALIF., NAVAL BASE
MARINE RAILWAY, FLEET SONAR SCHOOL

CAPACITY IN TONS 16 long

SUITABLE FOR DOCKING
50-ft picketboat

WHARF No wharf; catwalk on one side

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—wood
Inshore —wood

WIDTH OF TRACK 12′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK
Continuous vertical curve

CRADLE

SLOPE OF DECK
At fixed angle from tangent to track

SLOPE AT TOP OF KEEL BLOCKS
At fixed angle from tangent to track

MATERIAL
Cradle framing —steel
Superstructure framing—wood

BRIDGE AT BOW None

CAPSTAN AT BOW
No capstans, no winches

UPHAUL SPEED 60 fpm

DOWNHAUL SPEED Gravity

WHEELS
Diam 13″
Number—6 each side

HAULING MECHANISM

MOTOR 1 electric

HORSEPOWER 35 at 1,150 rpm
15 at 550 rpm

VOLTS 440

PHASE 3

CYCLES 60

KILOWATTS 26.1 at 1,150 rpm
11.2 at 550 rpm

UPHAUL CABLE One at ⅞″ diam

DOWNHAUL Gravity

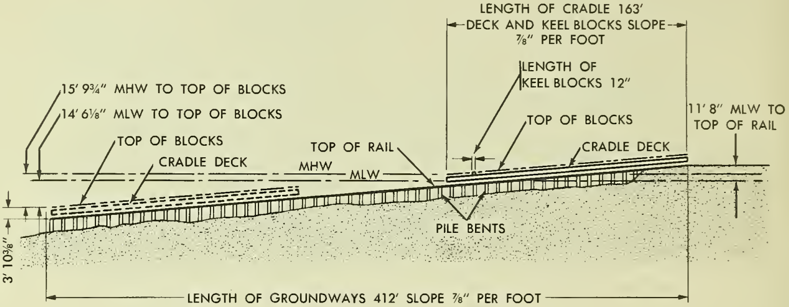
CRANE

None

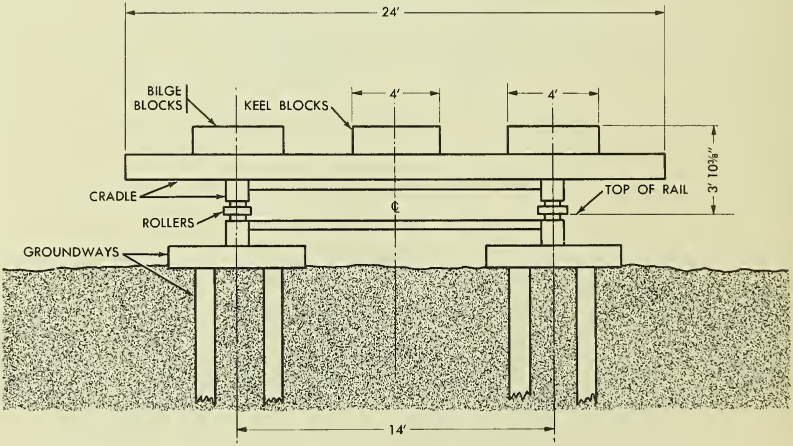
FIRE PROTECTION

1,000 gpm at 20 psi

SOLOMONS, MD., NAVY OPERATIONAL DEVELOPMENT CENTER (ATLANTIC) MARINE RAILWAY


LENGTH OF CRADLE 163'
DECK AND KEEL BLOCKS SLOPE ⅞" PER FOOT
LENGTH OF KEEL BLOCKS 12"
15' 9¾" MHW TO TOP OF BLOCKS
14' 6⅛" MLW TO TOP OF BLOCKS
TOP OF BLOCKS
CRADLE DECK
TOP OF RAIL
MHW
MLW
TOP OF BLOCKS
CRADLE DECK
11' 8" MLW TO TOP OF RAIL
PILE BENTS
3' 10⅜"
LENGTH OF GROUNDWAYS 412' SLOPE ⅞" PER FOOT

ELEVATION
(LOOKING WEST)



MHW EL +0.7'
MLW EL −0.6'
MEAN TIDAL RANGE 1.3'
KEEL BLOCKS 4' C TO C
BILGE BLOCKS 8' C TO C

TYPICAL SECTION
(LOOKING INSHORE)

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

SOLOMONS, MD., NAVY OPERATIONAL DEVELOPMENT CENTER (ATLANTIC) MARINE RAILWAY[1]

CAPACITY IN TONS 200 long

SUITABLE FOR DOCKING
Station craft and small boats

WHARF On two sides

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—piles and concrete
Inshore —wood

WIDTH OF TRACK 14′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK 7/8 in. per ft

CRADLE

SLOPE OF DECK 1/8 in. per ft

SLOPE AT TOP OF KEEL BLOCKS
1/8 in. per ft

MATERIAL
Cradle framing —wood
Superstructure framing—wood

BRIDGE AT BOW None

CAPSTAN AT BOW None

UPHAUL SPEED 10 fpm

DOWNHAUL SPEED 10 fpm

ROLLERS
Diam 4½″
No. of sets

HAULING MECHANISM

MOTOR 1 electric

HORSEPOWER 60

VOLTS 220 to 240

PHASE 3

CYCLES 60

KILOWATTS 45

UPHAUL CHAIN 1 chain, 2″ diam

DOWNHAUL CHAIN 1 chain, 1″ diam

CRANE

Original station crane removed
Lessee using 15-ton mobile crane

FIRE PROTECTION

Standpipe and hand extinguisher

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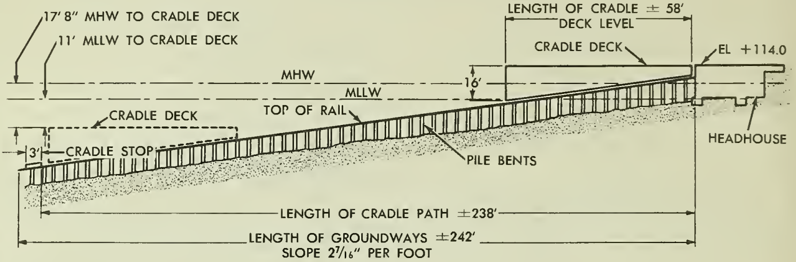
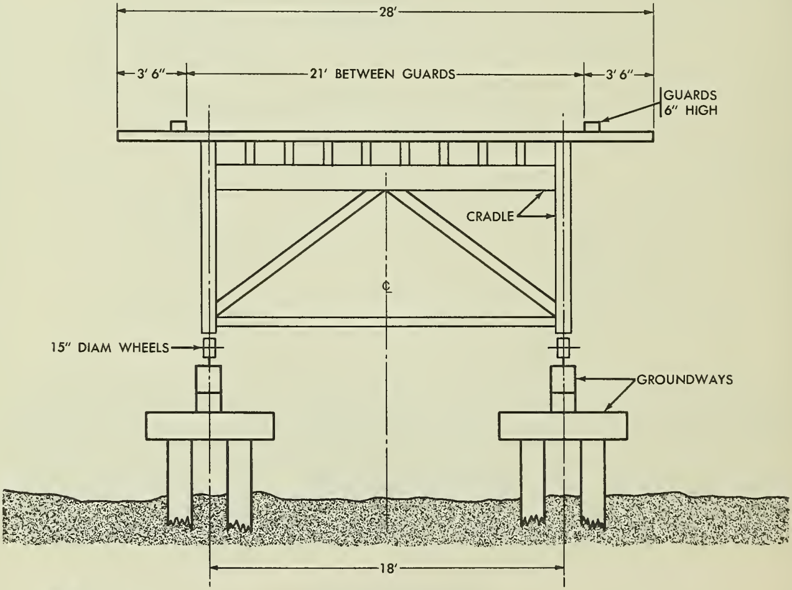
[1] Now under lease.

TREASURE ISLAND, CALIF., NAVAL STATION
MARINE RAILWAY, PIER 5



ELEVATION
(LOOKING SOUTHWEST)



MHW EL
MLLW EL
MEAN TIDAL RANGE 4.3′
NO KEEL OR BILGE BLOCKS

TYPICAL SECTION
(LOOKING INSHORE)

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

TREASURE ISLAND, CALIF., NAVAL STATION
MARINE RAILWAY, PIER 5

CAPACITY IN TONS 55 long

SUITABLE FOR DOCKING
Station craft and small tugs

WHARF None

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—piles and wood
Inshore —concrete

WIDTH OF TRACK 18′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK $2\frac{7}{16}$ in. per ft

CRADLE

SLOPE OF DECK Level

SLOPE AT TOP OF KEEL BLOCKS
Level

MATERIAL
Cradle framing —steel and concrete
Superstructure framing—steel

BRIDGE AT BOW None

CAPSTAN AT BOW None

UPHAUL SPEED Not known

DOWNHAUL SPEED Not known

WHEELS
Diam 15″
Number—13 on each side

HAULING MECHANISM

MOTOR 1 electric

HORSEPOWER 25

VOLTS 208

PHASE 3

CYCLES 60

KILOWATTS 18.65

UPHAUL CHAIN
2 chains, 1½″ diam

DOWNHAUL CHAIN
2 chains, ⅞″ diam

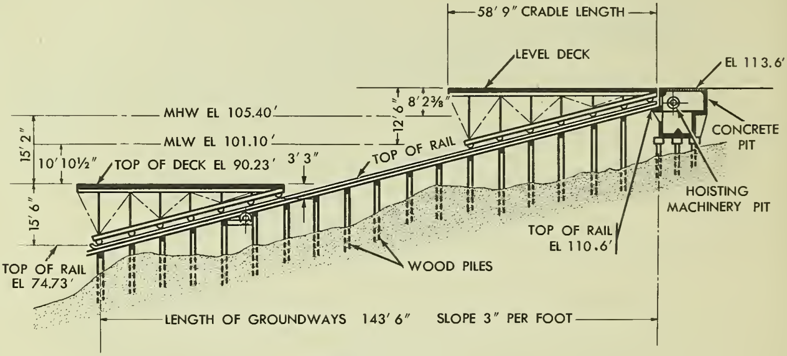
CRANE

None, use mobile yard crane

FIRE PROTECTION

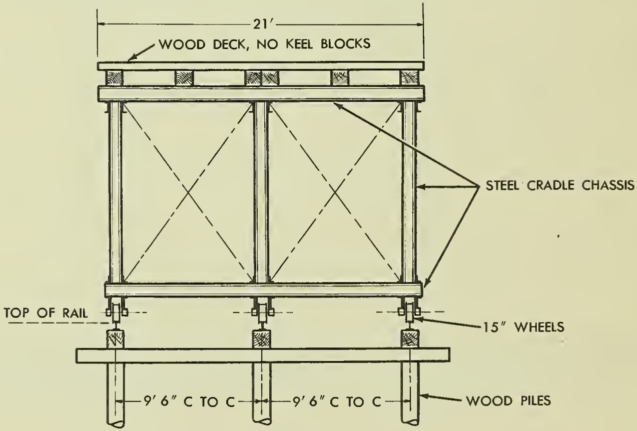
WATER
Gal per min 122 at hydrant
Pressure in psi 110

TREASURE ISLAND, CALIF., NAVAL STATION MARINE RAILWAY, PIER 9



ELEVATION

(VIEW LOOKING SOUTHWEST)



TYPICAL SECTION

(LOOKING INSHORE)

HHW EL 106.00′
MHW EL 105.40′
MLW EL 101.10′
MLLW EL 100.00′
MEAN TIDAL RANGE 4.30′
LOWEST TIDE EL 97.50′ ±

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

TREASURE ISLAND, CALIF., NAVAL STATION
MARINE RAILWAY, PIER 9

CAPACITY IN TONS 55 long

SUITABLE FOR DOCKING
Station craft and small tugs

WHARF None

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—wood piles and wood
Inshore —concrete pit

WIDTH OF TRACK 19′ 0″

NUMBER OF RAILS Three

SLOPE OF TRACK 1¼ in. per ft

CRADLE

SLOPE OF DECK Level

SLOPE AT TOP OF KEEL BLOCKS
No blocks; use top of deck

MATERIAL
Cradle framing —steel and wood
Superstructure framing—steel

BRIDGE AT BOW None

CAPSTAN AT BOW None

UPHAUL SPEED 10 fpm

DOWNHAUL SPEED 10 fpm

WHEELS
Diam 15″
Number—7 each side

HAULING MECHANISM

MOTOR 1 electric

HORSEPOWER 25

VOLTS 208/416

PHASE 3

CYCLES 60

KILOWATTS 18.65

UPHAUL CHAIN
2 stud link, 1⅜″ diam

DOWNHAUL CHAIN ⅞″ diam

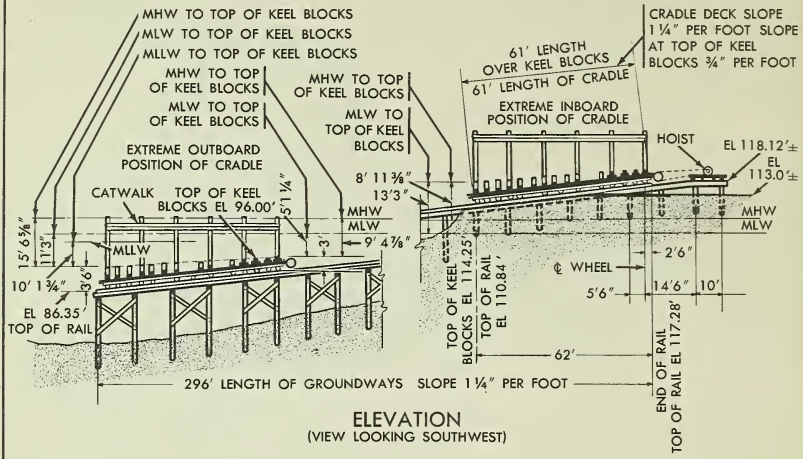
CRANE

Use mobile yard crane

FIRE PROTECTION

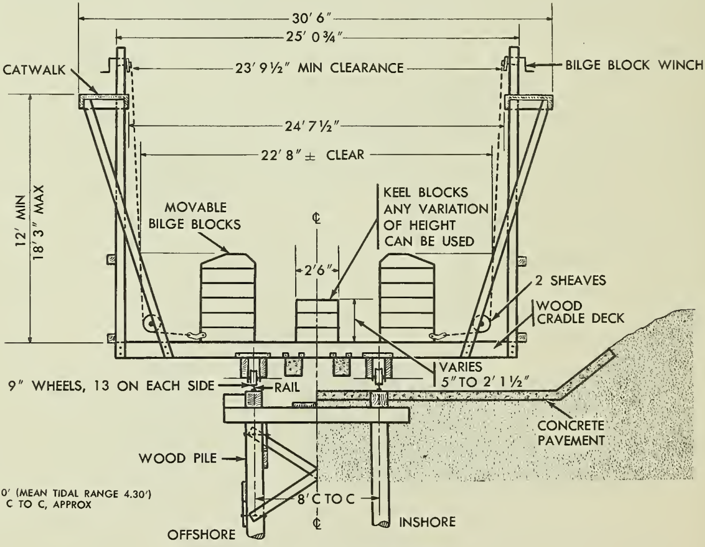
122 gpm at 110 psi at nearby fire hydrant

TREASURE ISLAND, CALIF., NAVAL STATION MARINE RAILWAY, PIER 9A



MHW TO TOP OF KEEL BLOCKS
MLW TO TOP OF KEEL BLOCKS
MLLW TO TOP OF KEEL BLOCKS
MHW TO TOP OF KEEL BLOCKS
MLW TO TOP OF KEEL BLOCKS
MHW TO TOP OF KEEL BLOCKS
MLW TO TOP OF KEEL BLOCKS
EXTREME OUTBOARD POSITION OF CRADLE
CATWALK
TOP OF KEEL BLOCKS EL 96.00'
5' 1 ¼"
15' 6⅝"
11'3"
MLLW
10' 1 ¾"
3'6"
EL 86.35' TOP OF RAIL
MHW
MLW
3'
9' 4⅞"
8' 11⅜"
13'3"
61' LENGTH OVER KEEL BLOCKS
61' LENGTH OF CRADLE
CRADLE DECK SLOPE 1 ¼" PER FOOT SLOPE AT TOP OF KEEL BLOCKS ¾" PER FOOT
EXTREME INBOARD POSITION OF CRADLE
HOIST
EL 118.12'±
EL 113.0'±
MHW
MLW
2'6"
℄ WHEEL
5'6"
14'6"
10'
TOP OF KEEL BLOCKS EL 114.25'
TOP OF RAIL EL 110.84'
62'
END OF RAIL TOP OF RAIL EL 117.28'
296' LENGTH OF GROUNDWAYS SLOPE 1 ¼" PER FOOT

ELEVATION
(VIEW LOOKING SOUTHWEST)



HHW 106.0'
MHW 105.4'
MLW 101.1'
MLLW 100.0'
TIDAL RANGE 6.0' (MEAN TIDAL RANGE 4.30')
KEEL BLOCKS 4' C TO C, APPROX

TYPICAL CRADLE SECTION
(VIEW LOOKING OFFSHORE)

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

TREASURE ISLAND, CALIF., NAVAL STATION
MARINE RAILWAY, PIER 9A

CAPACITY IN TONS 50 long

SUITABLE FOR DOCKING
Station craft and small tugs

WHARF None

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—wood piles and wood
Inshore —timber

WIDTH OF TRACK 8′ 0″

NUMBER OF RAILS Two

SLOPE OF TRACK 1¼ in. per ft

CRADLE

SLOPE OF DECK 1¼ in. per ft

SLOPE AT TOP OF KEEL BLOCKS
¾ in. per ft

MATERIAL
Cradle framing —wood
Superstructure framing—wood

BRIDGE AT BOW None

CAPSTAN AT BOW None

UPHAUL SPEED 20 fpm

DOWNHAUL SPEED 10 fpm

WHEELS
Diam 9″
Number—13 each side

HAULING MECHANISM

MOTOR Electric

HORSEPOWER 15

VOLTS 220/440

PHASE 3

CYCLES 60

KILOWATTS 11.19

UPHAUL CABLE 1″ diam

DOWNHAUL CABLE ¾″ diam

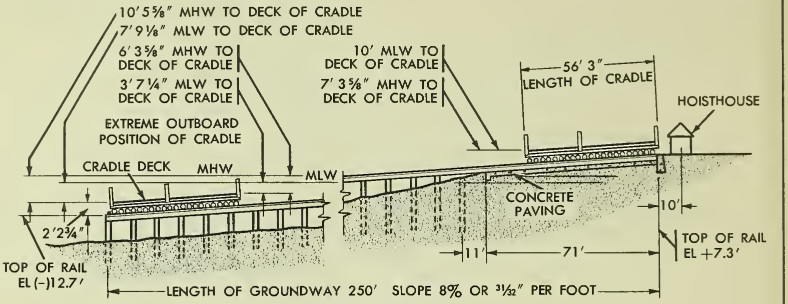
CRANE

Use mobile yard crane

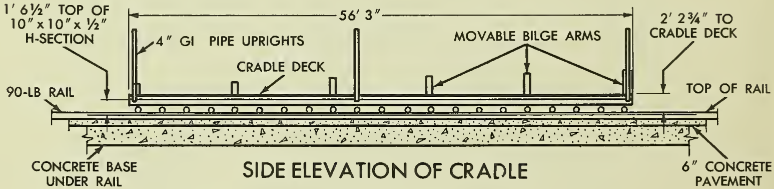
FIRE PROTECTION

122 gpm at 110 psi at nearby fire hydrant

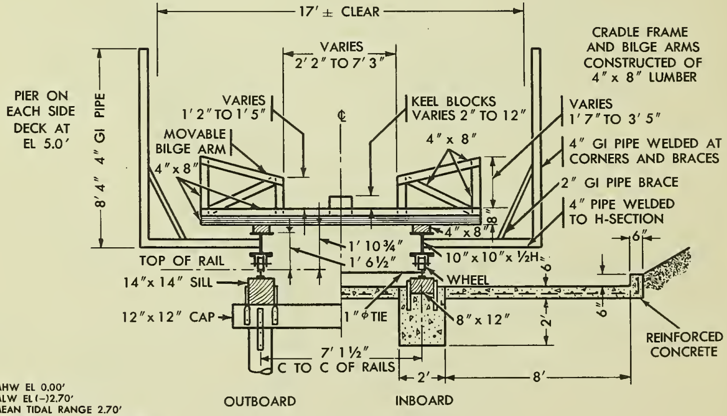
TRINIDAD, B. W. I., NAVAL STATION
MARINE RAILWAY


10′ 5⅝″ MHW TO DECK OF CRADLE
7′ 9⅛″ MLW TO DECK OF CRADLE
6′ 3⅝″ MHW TO DECK OF CRADLE
3′ 7¼″ MLW TO DECK OF CRADLE
EXTREME OUTBOARD POSITION OF CRADLE
CRADLE DECK
MHW
MLW
10′ MLW TO DECK OF CRADLE
7′ 3⅝″ MHW TO DECK OF CRADLE
56′ 3″
LENGTH OF CRADLE
HOISTHOUSE
2′ 2¾″
TOP OF RAIL EL (−)12.7′
CONCRETE PAVING
10′
TOP OF RAIL EL +7.3′
11′
71′
LENGTH OF GROUNDWAY 250′ SLOPE 8% OR 31/32″ PER FOOT

ELEVATION
(VIEW LOOKING WEST)



SIDE ELEVATION OF CRADLE



MHW EL 0.00′
MLW EL (−)2.70′
MEAN TIDAL RANGE 2.70′
KEEL BLOCK DISTANCE BETWEEN
CENTERS VARIES TO SUIT CRAFT

SECTION

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

TRINIDAD, B. W. I., NAVAL STATION
MARINE RAILWAY

CAPACITY IN TONS 18 long

SUITABLE FOR DOCKING
Small boats up to 72 ft

WHARF On two sides

GROUNDWAY

FOUNDATION Wood piles

CONSTRUCTION MATERIALS
Offshore—wood stringers
Inshore 71′ 0″ x 26′ 1″
concrete slab

WIDTH OF TRACK 6′ 10½″

NUMBER OF RAILS Two

SLOPE OF TRACK 1 in. per ft

CRADLE

SLOPE OF DECK 1 in. per ft

SLOPE AT TOP OF KEEL BLOCKS
1 in. per ft; also has adjustable arms

MATERIAL
Cradle framing —steel
Superstructure framing—steel

BRIDGE AT BOW None

CAPSTAN AT BOW None

UPHAUL SPEED 15 fpm

DOWNHAUL SPEED 10 fpm

WHEELS
Diam 6″
Number—44

HAULING MECHANISM

MOTOR 1 gasoline

HORSEPOWER 37

VOLTS

PHASE

CYCLES

KILOWATTS

UPHAUL CABLE ⅝″ diam

DOWNHAUL CABLE ⅝″ diam

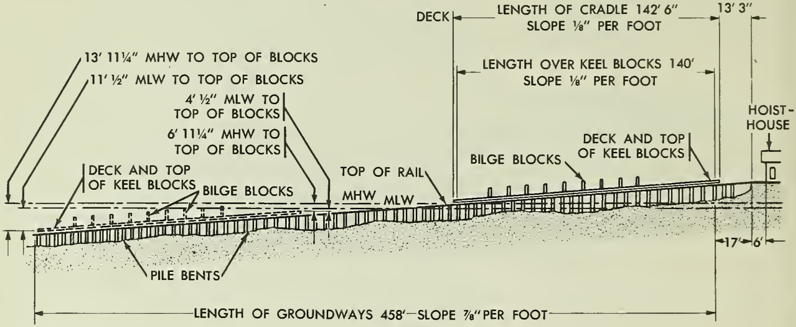
CRANE

Mobile as needed

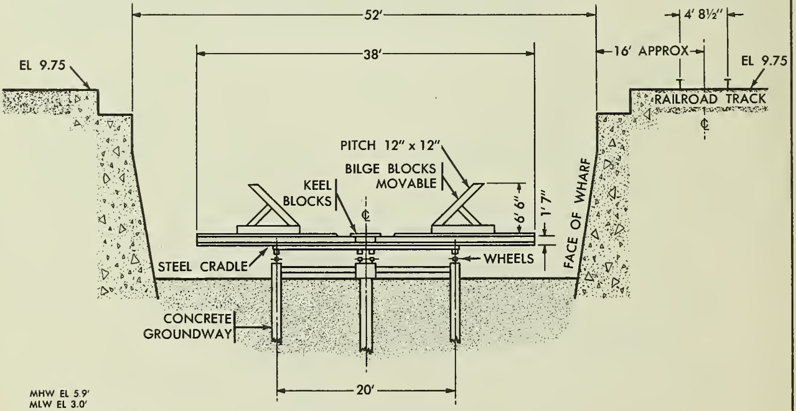
FIRE PROTECTION

40 gpm at 80 psi

WASHINGTON, D. C., NAVAL GUN FACTORY
MARINE RAILWAY


DECK
LENGTH OF CRADLE 142′ 6″
SLOPE ⅛″ PER FOOT
13′ 3″
13′ 11¼″ MHW TO TOP OF BLOCKS
11′ ½″ MLW TO TOP OF BLOCKS
4′ ½″ MLW TO TOP OF BLOCKS
6′ 11¼″ MHW TO TOP OF BLOCKS
LENGTH OVER KEEL BLOCKS 140′
SLOPE ⅛″ PER FOOT
HOIST-HOUSE
DECK AND TOP OF KEEL BLOCKS
BILGE BLOCKS
DECK AND TOP OF KEEL BLOCKS
BILGE BLOCKS
TOP OF RAIL
MHW
MLW
17′
6′
PILE BENTS
LENGTH OF GROUNDWAYS 458′—SLOPE ⅞″ PER FOOT

ELEVATION
(LOOKING WEST)



MHW EL 5.9′
MLW EL 3.0′
MEAN TIDAL RANGE 2.9′

TYPICAL SECTION
(LOOKING INSHORE)

SEE EXPLANATION OF DRAWINGS IN INTRODUCTION

WASHINGTON, D. C., NAVAL GUN FACTORY
MARINE RAILWAY

CAPACITY IN TONS 500 long

SUITABLE FOR DOCKING
Station craft and barges

WHARF On two sides

GROUNDWAY

FOUNDATION Piles and concrete

CONSTRUCTION MATERIALS
Offshore—wood piles and
concrete frame
Inshore —concrete

WIDTH OF TRACK 20′ 0″

NUMBER OF RAILS Four

SLOPE OF TRACK 7/8 in. per ft

CRADLE

SLOPE OF DECK 1/8 in. per ft

SLOPE AT TOP OF KEEL BLOCK
1/8 in. per ft

MATERIAL
Cradle framing —steel
Superstructure framing—steel

BRIDGE AT BOW None

CAPSTAN AT BOW None

UPHAUL SPEED 20 fpm

DOWNHAUL SPEED 20 fpm

WHEELS
Diam 14″
Total number—40

HAULING MECHANISM

MOTOR 2 electric

HORSEPOWER 50 up, 45 down

VOLTS 220

PHASE 3

CYCLES 60

KILOWATTS 37 up, 33 down

UPHAUL CHAIN 2 chains, 2″ diam

DOWNHAUL CABLE
1 cable, 3/4″ diam

CRANE

30-ton locomotive crane
15-ton mobile crane

FIRE PROTECTION

WATER
Gal per min 1,800
Pressure in psi 20
(Also city system)

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